

# MANUFACTURERS RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

Trade Name Registered in the U. S. Patent Office.

VOL. LXIV. No. 12.  
WEEKLY.

BALTIMORE, SEPTEMBER 25, 1913.

\$4.00 A YEAR.  
(SINGLE COPIES, 15 CENTS.)

## Manufacturers Record

PUBLISHED EVERY THURSDAY BY THE  
MANUFACTURERS RECORD PUBLISHING CO.,  
BALTIMORE.

RICHARD H. EDMONDS, President.  
FRANK GOULD, Vice-President.  
VICTOR H. POWER, Treasurer.  
I. S. FIELD, Secretary.

RICHARD H. EDMONDS,  
Editor and General Manager.

EDWARD INGLE, Managing Editor.

Staff Correspondents:  
ALBERT PHENIX,  
GEO. BYRNE.

Branch Offices:

New York—52 Broadway.  
Boston—643 Old South Building.  
Chicago—1919 Fisher Building.  
St. Louis—627-630 Century Building.  
New Orleans—814 Maison Blanche.

Subscription, - - - - - \$4 a year  
(payable in advance) to United States,  
Mexico, Cuba, Porto Rico, Hawaii and  
the Philippines.

To Foreign Countries (including Canada) in  
the Postal Union, \$6.50 a year.

[Entered at the Baltimore Postoffice as sec-  
ond-class matter.]

In order to avoid delays, all correspond-  
ence pertaining to news or advertising mat-  
ters should be addressed directly to the  
Manufacturers Record, Baltimore, Md., and  
not to individual editors, officers, employees  
or any branch office of the paper.

BALTIMORE, SEPTEMBER 25, 1913.

### EMBARRASSMENT IN THE IN- COME TAX.

In eighteen pages of the income tax section of the tariff bill, dealing with the tax upon individuals and not trenching upon the tax upon incomes of corporations, there are fourteen provisions of limitation. That fact clearly indicates the chaotic character of the measure even after it has been caucussed through both branches of the Congress. A hint of the confusion and embarrassment likely to arise from attempts to enforce the measure was given last week by President Alexander J. Hemphill of the Guaranty Trust Company, who, with special reference to the tax upon incomes from investments by foreigners in American securities, urged that for payment at the source of such incomes be substituted information at the source. Commenting upon this suggestion the New York Sun said:

The income tax sections of the revenue bill may be enacted about as they now stand, but there will have to be many amendments and much after-legislation to bring the administrative provisions of this wonderful tangle into consistent, coherent, practical working order.

The plan suggested by the president of the Guaranty Trust, and described in *The Sun* yesterday, for "information at the source" rather than taxation at the source, enabling

the Government to distinguish between the non-taxable incomes of foreign bondholders and the taxable incomes of citizens, is very interesting and well worth considering.

The Hemphill plan would apparently not only save our tax collectors a vast complexity of unnecessary work, but it would also spare the foreign bond holder much vexatious delay in the receipt of the full amount of interest due him, and thus promote the value and desirability of American securities for foreign ownership.

In its issue of April 24, shortly after the tariff-income bill had been introduced in the House of Representatives, the MANUFACTURERS RECORD criticised the principle of withholding and paying the tax at the source of the income, and since that time it has frequently urged the change in the fundamental evil in the bill. On June 19 we said:

The fundamental idea in the bill—payment of the tax at the source—has been permitted to override practical considerations which at once suggest themselves to the minds of men acquainted with ordinary business affairs.

On June 23 we suggested to Chairman Simmons of the Senate Committee on Finance an amendment to the bill providing for information instead of payment by the source of the income, and repeated the suggestion in our issue of June 26, mentioning that it would tend to overcome the difficulties in the way of collecting taxes upon the income from bonds and like securities. One month later the suggestion was reiterated in our columns.

We fear that Mr. Hemphill's same plea will have no weight with the framers of the income tax measure. His argument that any legislation that prevents the sale abroad of well secured first mortgage bonds will seriously retard the development of the resources of the Southern and Western portions of this country, in which he is a great believer, will hardly appeal to a group of statesmen willing to subordinate other considerations to the dictates of a party caucus under the delusion that they have some special "mandate from the people." If not a fiat from Heaven to do whatever their lack of experience and their faulty judgment may dictate. As the tariff-income tax bill was railroaded through the House of Representatives, these statesmen distinctly discouraged men trained in practical affairs from offering any advice and acted as though they regarded the hodge-podge that they had concocted as almost superhuman in its perfection. At this late day they are not likely to make any change that they might regard as a reflection upon their capability to frame constructive legislation.

The substantial interests of the country, the men whose work gives Congress a reason for its existence, must patiently wait for the judgment of the courts upon the income tax measure and the action of the people when they discover in the attempts at practical application of the law what a muddle of obscurities, contradictions and absurdities has been perpetrated upon the country.

### A GREAT HIGHWAY CONNECTING THE SOUTH WITH THE NORTH AND WEST NEEDED.

The plan for building a good road, to be known as the Lincoln Highway, from the Atlantic to the Pacific is being vigorously pushed. Originally started by President Fisher of the Prest-O-Lite Company, this undertaking has reached the point where it seems altogether certain that within a very brief time the full amount needed, \$10,000,000, will be provided by public subscriptions. Among the subscriptions already announced are \$300,000 by the Goodyear Tire & Rubber Co., \$150,000 by the Packard Motor Car Co., \$150,000 by the Willys-Overland Company, \$100,000 by the Hudson Motor Car Co., and \$60,000 by the Prest-O-Lite Company. Henry B. Joy, president of the Packard Motor Car Co., is president of the association. At the date of the last circular issued more than \$4,000,000 had been definitely pledged. The moving spirits in this great undertaking anticipate that with such a start as this there will be little difficulty in raising the full \$10,000,000.

There are approximately 2000 miles of roadway to be permanently improved. It is proposed to co-operate with local communities to procure the establishment of such a highway or the improvement or reconstruction of existing highways constituting part of a continuous transcontinental road. Some of the States have already taken steps looking to the construction of improved highways from east to west within their respective borders connect with and be a part of this Lincoln Highway.

While this proposed subscription of \$10,000,000 will doubtless be raised, it is altogether probable that double that amount will be expended, including the work done by States, counties and municipal bodies. It will thus be possible to build a highway which will indeed be worthy of the name, constructed on the best engineering lines, available at all seasons of the year and not merely during dry weather.

The MANUFACTURERS RECORD heartily commends the movement and the organizations which have contributed so liberally to this undertaking, but there is another highway equally as important—indeed, we believe far more important—that demands the energetic co-operation of the business interests of the North and West in connection with those of the South. This highway, more important in many respects than that connecting the Atlantic and the Pacific, would connect the North and the West with Florida and the Gulf coast and then on to Texas. A great highway, built of the best materials, open for travel at all seasons of the year, running from New York to Florida, and thence along the Gulf coast to New Orleans, and another highway from the Central West connecting at some point on the Gulf coast with this North and South highway, would make it possible to unite North, South and West in a closer relationship than has ever existed before. This highway would make possible material developments and an increase in business interests between the South and North and the West which would make it worth many times its cost.

As the nation's greatest undeveloped asset, the development of which will enrich this country beyond the dreams of today, the South with a highway such as this would benefit to an almost limitless extent the whole nation. This highway would open up to hundreds of thousands of tourists and health-seekers and home-seekers the opportunity of spending the winters along the South Atlantic and Gulf coasts, or at other points in the South which could be reached by motor trips. To this main highway, which should be built in the most substantial manner, counties and States would, of course, construct connecting lines or feeders. The building of such a highway would stimulate road building throughout the South. This section is already doing wonders in the way of road building, more in proportion to population and wealth than any other section of the country, and it should have the co-operation of the great automobile interests and others who are so actively and liberally working for the building of the Lincoln Highway to connect the Atlantic and the Pacific coasts. The MANUFACTURERS RECORD commends this thought not only to the men who are active in this Lincoln Highway undertaking, but to the great capitalists of the South, men who have made millions in this section and who are investing millions in its development. There are men identified with Southern interests who could organize such a campaign and head the subscription with half a million dollars or more and never miss the money. The MANUFACTURERS RECORD believes that if men of the highest financial and business standing in the South,

men who have achieved great things in other undertakings, would formulate such a plan as this and push it with the vigor that the Lincoln Highway is being pushed, that the very interests which are contributing so liberally to that work would contribute with equal liberality to the plan to build a road through the South to Florida and New Orleans and one from the Central West into the South and connecting with this coast highway. It is a work worthy of men of the highest ability and largest financial interests who want to do something broader than they have yet done for the advancement of the whole South.

The MANUFACTURERS RECORD is aware of the work that is being done on the proposed Quebec-to-Miami road, and on the so-called National Highway in the South, but the writer knows from experience that much of the roads outlined as parts of these systems is bad at all seasons and practically impassable in winter and spring. Something far more comprehensive is needed. The highway demanded by the times is one unbroken line from the North and the West through the South, built so solidly that it cannot be affected by weather and in keeping with the character of construction intended for the Lincoln Highway between the Atlantic and the Pacific Coasts.

#### CO-OPERATION NEEDED IN STATE UPBUILDING.

The people of Georgia have organized a Chamber of Commerce with a view to welding all sections of the State and all interests into a homogeneous body working for the upbuilding of all Georgia. West Virginia has an organization of this kind in its State Board of Trade, which has been very effective in doing work for that State. Texas has the Commercial Secretaries' Association, which is doing splendid work for that State. Georgia in undertaking a State Chamber of Commerce is giving the Central South an example of how a State must work for its own material advancement. Too much dependence is placed upon outside organizations and on general organizations projected to cover the whole South. The best development of the South will never be brought about in that way. Each State must work out its own salvation. Each State must unite its people so that there will be a co-operative, enthusiastic spirit for the advancement of every section of the State. In many sections there is too much jealousy, one town backbiting another town, or one town jealous of the advantages or the progress of another. No man can travel through the Southern States without being impressed with this spirit, which at times breaks into active jealousy, amounting almost to open hostility and to misrepresentation. The Greater Western Carolina Association, for instance, organized to make known the resources of that section, has undertaken to eliminate the jealousy and the actual misrepresentation which has gone on from time to time in some of the towns of that section. This association has done splendid work, but it has not yet quite fused all the peoples of these towns into one solid, co-operative, enthusiastic upbuilding body, free from any small jealousies about other places. Doubtless it will do so in time.

There are some towns in West Virginia that are jealous of other towns in the same State; some in Texas that are jealous of other places and at times inclined to permit their jealousy to misrepresent them. The same is true to a considerable extent in Florida. East coast towns have been jealous of West coast places, and the West coast towns have been jealous of the East coast. Towns on the West coast have been jealous of other West coast towns, East coast towns have been jealous of other East coast places, and nearly all of them have been jealous of Jacksonville; and perchance Jacksonville has been jealous of some of them. Florida has so many advantages that it is not possible that any one section of the State can monopolize them all. It is

growing so rapidly that there is room enough for every energetic town. If the people of that State will unite thoroughly in a broad campaign for State development without a single trace of jealousy or ill feeling to be found anywhere, Florida's progress will be even more phenomenal than it has been. Georgia has suffered from this unwise spirit. The rivalry between cities and towns in Georgia has at times been more than that of a friendly spirit, each striving to achieve the greatest thing. Many of these cities have fought each other, misrepresented each other and sought to draw industries the one from the other.

There is no reason for the petty spirit that produces the jealousy of towns in the same State. There ought to be too much State pride to permit this. And then even from the purely selfish point of view greater results can be achieved for all by united co-operation of all. If the Georgia Chamber of Commerce, which has just been organized for the purpose of welding Georgia and bringing its people together into a broad, persistent campaign looking to the upbuilding of every industry—industrial, agricultural, mercantile—in every section of the State, can accomplish what it has set out to do, it will do more to advance the progress of the State than all the outside organizations which from time to time are projected for the development of the whole South can ever do. Florida can do more for itself than anybody else can do for it. Alabama, North Carolina, South Carolina, Virginia, Mississippi and every other Southern State ought to have a State organization concentrating its every effort to making known the resources of the whole State, bringing the people of every section into close, harmonious relationship, fighting the battle for every section without partiality to any. It is possible for such an organization to be created in every State, and if wisely managed it can do a world of good.

#### IMPROVED CONDITIONS IN THE CEMENT INDUSTRY.

Throughout the country there is a marked increase in the demand for cement. The old uses to which it has been put are steadily expanding their requirements, while new uses are being constantly developed. Road building is beginning to make a wide field for cement, and it looks as though the next few years would develop an enormous demand for this purpose. Its use in building operations is expanding in every direction. For a few years the rush of capital into cement plants, often badly promoted and inadequate-

ly financed, brought about a serious situation in the trade. Weak plants sold their output for any price they could get in order to keep running, and this forced the strong plants to meet their competition, so that for two or three years cement making yielded little or no profit adequate to the capital invested. The situation is now rapidly changing and the demand is catching up with the output and promises to overrun it in a few years. Elsewhere in this issue we publish a number of very interesting letters from cement-makers giving their views as to the outlook for the industry. One estimate puts this year's consumption at 88,000,000 barrels.

#### A JOURNALIST ASTRAY ABOUT THE INCOME TAX LEGISLATION.

Somebody put one over on a Washington correspondent of the Baltimore Sun when, in his defense of Congressman Hull and his income tax measure, he was led to write:

Hull has written the bill levying such a tax and has drafted it with such care that no question as to its constitutionality has been raised either by its friends or its enemies.

That estimate was published on September 15. As a matter of fact so much question was raised as to the constitutionality of the measure from the time that it emerged from the caucus of the House majority that it had some effect in modification of one of the crudest bits of legislation on an important subject that has ever been attempted in Congress. One result of criticism was an amendment of the bill by the Senate Committee on Finance, which, on July 18, in laying the tariff-income tax bill before the Senate and referring to the income tax section, said:

Paragraph D is further amended to obviate the constitutional objection to computing the tax on income accruing prior to the date on which the amendment to the Federal Constitution authorizing the tax went into effect.

Again, on July 18, Senator Root suggested an amendment to the measure, involving a constitutional question, to overcome the difficulty of attempting to levy a tax upon income that had been received before it was lawful to levy the tax. That question must have been regarded as of great importance, because, on August 26, when the income section of the bill was reached and before anything else was done, there were laid before the Senate arguments by Congressman Hull, rather remarkable in legislative procedure, by Senator Shields and by an attaché of the Attorney General's office, aggregating about 11,000 words, opposing Senator Root's contention. That the objection was not obviated is no proof that it was not well taken and no promise that it will not be raised in the courts of the country, the place where the constitutionality of laws are determined. But the two points cited wreck entirely the impression that no question as to the constitutionality of Congressman Hull's masterpiece has been raised. Indeed, the incertitude and trepidity about this question of constitutionality are strikingly revealed in the following amendment to the tariff-income tax bill made by the Senate:

If any clause, sentence, paragraph, or part of this Act shall for any reason be adjudged by any court of competent jurisdiction to be invalid, such judgment shall not affect, impair, or invalidate the remainder of said Act, but shall be confined in its operation

to the clause, sentence, paragraph, or part thereof directly involved in the controversy in which such judgment shall have been rendered.

This remarkable attempt to antedate judgment by the courts is a fit complement to a provision seeking to make effective a law eight or nine months before the law has been placed upon the statute books.

#### TO GUARD THE NATION.

The request of the bankers of New York that the National Government keep a larger number of troops stationed on Governor's Island as a protection against possible riots or uprisings in that city should be granted. No patriotic citizen of this country can study the conditions existing in New York without feeling that that city is open to dangers which in some great emergency might prove exceedingly disastrous to New York and thus to the country. With 2,000,000 or more foreigners, a large proportion of them gathered from the lowest elements of Europe, massed in a limited area, easily led or misled by agitators, thousands of them unable to read or speak the English language, there are possibilities of dangers against which the bankers of New York are wisely trying to safeguard the city. Moreover, there is a desperate criminal element in New York ready at any moment to join in any scheme of murder or rioting or looting, apparently caring little for the consequences. The request of the business men and bankers of New York should be heeded. That city is the very center of the business activities and the financial interests of the whole country, and anything that even for a day brought about a disastrous uprising or riot there would cause fearful national losses.

Meanwhile legislation should put an end to the opportunities for increasing the New York menace through immigration or for scattering the curse to other centers of the country.

#### MILLIONS OF SOUTHERN ACRES WAITING OCCUPATION IN GROWING FOODSTUFFS.

Every railroad investor, every manufacturer, and, indeed, every man in this country, is interested in the fact that trucking soils of the South are a perpetual guaranty against the people of this country reaching the verge of starvation. Their full utilization will be incitant of agricultural, industrial, transportation and financial energies of a scope hard to be measured conservatively.

There is land enough and climate sufficiently favorable to return the vegetable and fruit supplies required by many times the present population of the country. Lack of suitable lands is eliminated for many generations, and further development awaits upon the solution of economic problems rather than upon the discovery of suitable soils.

Such is the conclusion of a paper in the latest Yearbook of the National Department of Agriculture dealing with the characteristics of millions of acres of land in the Atlantic and Gulf States of the South, land consisting of the Norfolk fine sandy loam, which the paper describes as easily occupying "the premier place both with regard to its total extent and to its wide range of possible products," and "almost ideally constituted for the intensive growing of crops and the easy mechanical handling of a soil mass;" the Norfolk fine sand, the Portsmouth series, the Coxville fine sandy loam and the Coxville



sandy loam. The paper, which is reprinted on other pages of this issue, sketches the development of the truck-growing industry in the South, and tells of the proven adaptability of the soils to cabbage, lettuce, Irish potatoes, cucumbers, radishes, turnips, carrots, beets, eggplant, peppers, sweet potatoes, cantaloupes, tomatoes, peas, corn, beans, strawberries, squash, watermelons, onions, asparagus and other fruits and vegetables, and of the opportunities in the ability of the soils to yield two or more crops in succession in the same year. Results in typical regions, such as the Norfolk (Va.) area, the Eastern Shore of Maryland and Virginia, Eastern North Carolina, centering about Chadbourne and Wilmington, Conway, Georgetown and Charleston, S. C.; Savannah, Ga., and other localities.

But the most suggestive statements in the paper, perhaps, are that the soil survey of the Department has encountered not less than 4,682,992 acres of the Norfolk fine sandy loam in the Southern and Southeastern States, and that it is probable that a total of 20,000,000 acres will ultimately be found to exist; that 2,014,334 acres of Norfolk fine sand have been found in the same region, and that such soil exists probably to the extent of 10,000,000 acres, and that not one-tenth of 1 per cent. of the total area of Norfolk fine sandy loam is now occupied for trucking and hardly 25 per cent. of it for any agricultural purpose save grazing, maybe; that probably less than 10 per cent. of the Norfolk sand soils is used for agriculture and less than one-hundredth of 1 per cent. of it for truck crops, while somewhat similar conditions obtain as to the other soils.

At present these soils are producing annually in truck crops to a value approaching \$100,000,000, with the rest of the country only beginning to appreciate the advantages of such a source of food supplies. What a harvest for the South and what material blessings for the whole population of the country are latent in the 20,000,000 or 25,000,000 acres of trucking soils still awaiting the expansion of the intelligent treatment that has already made a few hundred thousand acres to smile with frequent and abundant truck crops!

Realization of the promise, though, will call for much. Capital in the shape of money and men will be required to equip the country with a 25,000,000-acre truck farm in the South.

Transportation facilities in the shape of quick trains from the growing centers to the cities and towns of the North and West, of motor trucks from farms to railroad shipping points and of electric cars throughout the whole region will be increased on lines that have already demonstrated their effectiveness.

Some areas must be reclaimed, either by removal of surplus water by private or community enterprise or by irrigation, to insure sufficient moisture, regardless of seasonal accidents.

The market for commercial fertilizers, of which the trucking regions of the South have shown their appreciation, will be vastly expanded, as well as the market for improved agricultural implements and machinery.

Local banking will adjust its policies to meet the new demands to the advantage of finance and farming alike.

Indeed, the ramifications of material benefits to accrue from full occupation of the available soils in truck growing are hard to be estimated. Above them all, however, towers the fact that the

South is potentially the insurer of the country against lack of vegetables and fruit, and offers enormous returns to human energy in maintaining the insurance.

No other region known has an area so vast of soil so ideally suited for vegetables and fruits as the South. Well may the railroads of this section give attention to the development of this industry, for its growth will add many millions of freight to their annual receipts. Even now the railroads are annually hauling tens of thousands of carloads of such freight to the North and West, including the citrus fruits from Florida. The full development of this vast trucking possibility means profitable employment for millions of people, a larger measure of food supplies for still more millions, and hundreds of thriving towns and cities and thousands of prosperous farms and orchards in the South.

#### REDUCING THE COST OF POWER IN ALABAMA.

An interesting bit of news and likewise an interesting suggestion comes from Mr. J. H. Privett, president of the Anniston Fertilizer & Gin Co. of Jacksonville, Ala. Mr. Privett writes:

I was the first to install the cotton gin with electricity, using an air compressor for the press, and find it a perfect success, as it saves so much labor, which is quite an item. I consider that the Interstate Power Co. is one of the most important factors of all the enterprises, as they are very progressive and they are reducing the cost of power to its lowest possible rate as to enable the small as well as the larger industries to get the benefit of economy in running the various plants of this country. I think it behooves every citizen to patronize and encourage this movement to harness up every available stream in the country, which will reduce the cost of manufacturing very much.

#### Good Way to Celebrate.

Celebrating its twentieth birthday, the Peden Iron & Steel Co. of Houston gave proof of the spirit and enterprise which have made possible its very great success. Started 20 years ago with a capital of \$7500 and doing in these early days a very small business, this company has grown until it has a capital of \$1,000,000, with a trade aggregating \$3,000,000 a year. The Peden company handles a wide line of supplies for railroads and factories of all kinds, roofing materials, hardware, machinery and other things for which there is an increasing demand throughout Texas. The vigor with which its business has been pushed is indicated by the growth of its capital and its sales. The founders of this concern are Southern-born men. The Peden family were originally from Griffin, Ga. They moved to Houston about 30 years ago, became identified with business interests in that city, and have developed the Peden Iron & Steel Co., until its trade has reached the volume mentioned. One member of the firm is a graduate of the Agricultural and Mechanical College of Texas. Vice-President Harvin, like the Pedens, is from Georgia, and moved to Texas from Thomasville in 1893.

The way in which the twentieth birthday was celebrated is a demonstration of the energy which has made the success of the company possible. The celebration was made notable by the insertion of a 20-page advertisement, said to be the largest single advertisement ever inserted by a Southern business concern in a Southern paper, in the *Houston Chronicle*. This advertisement covered every line of goods handled by this company. Its very magnitude demonstrates the enterprise of the Peden people.

## Revival in Cement Industry.

Letters to the MANUFACTURERS RECORD from a number of representative manufacturers of Portland cement indicate a revival in their industry. The trade has developed a more uniform demand than in recent years, and a gradual increase is apparent. This is accounted for by a growing realization in urban and rural communities alike of the valuable qualities of cement in construction work of many kinds, in large undertakings as well as in small ones, and especially by the fact that the effect upon the cement market of halting in some branches of building is being more than overcome by the increasing popularity of cement as a material in the building of concrete highways in city and country. The emphasis of that tendency in the letters is one of the most striking phases of the situation revealed by them. The letters follow.

John A. Miller, president Clinchfield Portland Cement Corporation, Nazareth, Pa.:

"The cement trade today as a whole is more steady than it has been for some years past. The demand is uniform and a gradual increase seems noticeable. This increase is probably due both to improvement in methods of construction and the more diversified use to which cement is being put. In the territory in which we market our product manufacturers, farmers, municipalities, etc., are beginning to realize that the most satisfactory results are obtained from the general use of cement. In our opinion, the most prominent feature in the development of the industry in the future will be the increasing use of cement in the form of concrete highway construction. When properly built the cost of such a highway is not excessive, and its low maintenance cost, together with the universal satisfaction given by this type of roadway, will insure for our industry a large and steady demand."

W. G. Hartranft, president Wm. G. Hartranft Cement Co., Philadelphia, Pa.:

"While the cement business is fair, yet there has been no boom this year. There are shortages in certain sections, due to the fact that the railroad companies have not furnished cars rather than any lack of stock on the part of the manufacturers. There will probably be slightly more cement used this year than last, which has principally been due to two factors—first, the general uses in a small way have increased very much in the last few years; second, the increased demand for permanent roads is forcing the different communities to either put down concrete roads or at least a concrete base under any permanent road. A road can be made of cement which will stand the wear and tear of iron-bound traffic, the most rapid-moving vehicle, dustless, non-slippery, and affording good traction power for any type of vehicle for 365 days a year. This use of concrete in road construction alone will eventually wipe out the present overproduction of Portland cement."

Charles Catlett, president Security Cement & Lime Co., Hagerstown, Md.:

"The increase in the consumption of cement is due primarily to its wonderful properties and the more general distribution of information as to how and where it can be used. This increase in the consumption has continued without intermission since 1890, and even in years when people could get along with less iron, which is so generally considered the barometer of business, they have called for more cement. This annually increased consumption has taken place in spite of panics and broad depressions, and there

is no question that the demand will largely increase in the future. It must supplement iron and take the place of lumber. The demand is increasing in old ways and in new ones, and by far the largest new use which is developing is for road making. This use is destined to exercise a material influence on the industry. Even as a student of cement and more or less familiar with its wonderful properties, it has been hard for me to realize that a road made entirely of concrete would be so satisfactory. But the evidence is overwhelming that a concrete road properly made of good material more perfectly meets the requirements of modern highway traffic than anything that has yet been devised when first cost, upkeep and adaptability are considered. While the consumption will continue to grow, it is to be hoped that the industry is getting on a firmer financial basis. This has not been true for a number of years, some 30-odd cement companies having gone into the hands of receivers. These receiverships have been partially due to bad promotion, location and management, but more largely from a fundamental misconception of the profits in the business—a failure to recognize the true or commercial cost. This has been coupled with a failure to recognize the great difference in raw material and the high cost and the long time necessary before a new plant can expect to operate on a normal basis, and, finally, promoters of new plants overlook the fact that the sudden interjection of their output immediately breaks their own local market. These facts have been borne in upon the banking and investment public, and new development will probably only be made, and should only be made, where the market requires it. This will do much to insure the stability of the industry."

R. L. Cope, sales manager the Allentown Portland Cement Co., Allentown, Pa.:

"You may take this letter as the opinion of the writer only, and not the opinion of the company. The cement trade this year has been unusually good and all of the mills in the East have been kept busy. The outlook for the balance of this year and also next year is bright, and the writer believes that the increased use of cement is due to the many new uses to which cement can be put, but the greatest amount in the future will be used on roadways for cities, towns and country roads. The general construction work—we see no reason why it should be decreasing to any great extent, although it has fallen off considerably the last few months, but to take the place of this construction work there are a great many large jobs, such as subways being built by big cities, which will consume an enormous amount of cement. However, as concrete roads require about 2500 barrels to the mile, and as the agitation for good, permanent roads is very live at the present time, there does not seem to be any doubt that roadways will be the big factor in the cement industry in the future."

G. S. Brown, second vice-president Alpha Portland Cement Co., Easton, Pa.:

"The cement industry in general has been better this year than for several years past. It is estimated at the present that the consumption of cement for the year 1913 will be in the neighborhood of 88,000,000 barrels. This is a considerable increase over the consumption of last year. The use of cement in construction work during this year has been large, but we believe that its increased use is due more to the fact that the general public is becoming more familiar

with its general adaptability. Particularly do we find a considerable increase in the use of cement among the farmers of the country, both North and South, and we believe that this use will increase as the farming community realize how suitable it is for much of the construction about the farm. We also note largely increased use in road construction. We believe that in the course of a short time one of the largest uses to which cement will be put will be in the making of good roads. It has been the general experience that the roads which have been largely built in the last few years of macadam are so expensive in upkeep that this method of road making will have to be abandoned wherever there is any heavy travel. The few cement roads already built have indicated that this type of construction, while somewhat higher in first cost, is so much lower in cost of upkeep that it would seem as if very shortly the concrete type would be generally adopted. Prices this year have been better than for some years back, but it is a question whether the present price is in many localities sufficient to keep up the mills properly and at the same time give a reasonable return to the stockholders."

A. C. Steece, treasurer and general manager the Ironton Portland Cement Co., Ironton, O.:

"Owing to improvements we are making, we have not solicited business for the past few months as much as we otherwise would. However, we believe we have received our share of inquiries, and the general condition of the cement business seems to be much better than it has been for several years. There are a number of reasons for this, among them being the diversified uses to which cement is put; another being that the railroads are using large quantities of cement every year; also, the Government is using larger quantities of cement in the canalization and irrigation projects. The same is true of the various State governments. Take it all in all, it cannot help but increase the demand for cement, and it looks to us as if the demand would continue, provided, of course, that general business conditions improve."

### The Sand Hills Continue to Attract.

[Special Cor. Manufacturers Record.]

Norfolk, Va., September 19.

Announcement is made that W. E. Youland, owner of the very attractive Lakeview property, seven miles north of Southern Pines, associated with other incorporators of Biddeford, Maine, will commence the erection of an excellently-arranged tourist hotel, to include 100 rooms with 50 to 75 having bath. The Lakeview property is a most attractive one, the elevation running 550 to 600 feet above the sea level, and surrounded by a pleasing growth of pine and oak forest. Adjoining the entrance from the Seaboard's station is a beautiful lake, affording excellent opportunity for boating.

The Georgetown Hotel Co. of Georgetown, S. C., with Herman Schenck, president, has been organized to construct at that point a modern hotel, made necessary by the increasing demand for accommodations. The Winyah Bay has a thousand miles of tributary navigable waters, and in addition to the section's mild and salubrious winter climate the hunting chance is one that attracts the sportsman. Quail, deer, wild turkey and millions of wild duck in the winter months afford rare sport. Former President Cleveland spent many pleasant hours there in pursuit of the wild duck.

The Southern Pines-Lakeview section now has a direct passenger train service to eastern South Carolina by the extension

of the North & South Carolina Railway from its Seaboard connection at Hamlet to Poston, in Florence county. Just across the Pee Dee River from Poston to Georgetown, the Georgetown & Western maintain an excellent service. The continued hotel development in the Sand Hills and this modern hotel at Georgetown will offer by this new channel of communication a diversity of sporting pleasure to the tourist who seeks temporary absence from business cares. New York city and many other cities in that area hold many who want a few days' vacation within easy reach of business demands, and the very fact that present Seaboard schedules afford this opportunity has opened the way for many to seize the chance. To leave New York city in the afternoon and take breakfast next morning at Lakeview, Southern Pines or Pinehurst is a thing of much value to the busy man who only has a few days at his disposal for recreation, and that portion who want to spend a day in a huntsman's paradise can take a morning train out of the Sand Hills, via Hamlet, eat dinner at Poston on the Pee Dee and early supper at Georgetown. Ready transportation facilities tend to attract people to any section so supplied, and the new channel is having a decided effect upon a development in its area. Southern Pines can offer this season a very materially increased hotel accommodation for the tide of intended tourists. The following improvements were noted at that point:

The Highland Pines, with accommodations for 200 to 250 guests, will start well equipped for its second season. The Hollywood Inn, 40 rooms, is rapidly nearing completion, and an excellently arranged apartment house and five new and commodious cottages, being erected by Mr. Gould, will be ready soon. Material additions are being made to both the Southern Pines Inn and the Juneau.

Pinebluff, under the active efforts of Dr. John Warren Achorn, is making progress, and has just commenced on a nine-hole golf course, located within easy reach of the hotels. Dr. Achorn says:

"It has often been remarked upon that the milk bottles in the Sand Hills are of an iridescent lavender color. It is explained that they are made of ordinary white glass, but that on exposure on doorsteps or drying shelves they soon take on this beautiful color.

"This is due to actinism, that quality in the sun's rays by which chemical changes are produced. The red rays of the sun are those which cause heat waves, the violet rays affect the eye and have to do with the light, while the ultra-violet rays are the ones which produce the actinic effect and color the milk bottles. These rays, according to the discoveries of scientific man, penetrate into our bodies and cause oxidation and increased metabolism (change), thereby promoting the elimination of waste matter in the system and the regeneration of the tissues of the body. This section is thus exceptional as a health resort."

The doctor has outlined an original transportation plan from the Sand Hills and incorporated his Canoe Club to use the Lumber and Pee Dee rivers. He says:

"The Lumber flows into the Little Pee Dee, the Little Pee Dee into the Great Pee Dee, which empties into the ocean at Georgetown, S. C. The entire run from Pinebluff to Georgetown, a distance of 364 miles, may be made in 10 to 14 days. Canoeing in winter is not only possible, but pleasurable over this course. These are the only clear-water rivers flowing through the Atlantic Coast Plain available for long-distance canoeing."

J. A. PRIDE.

## Vitrified Brick as Paving Material for Country Roads\*

By VERNON M. PEIRCE, Chief Engineer, and CHARLES H. MOOREFIELD, Senior Highway Engineer, Office of Public Roads.

A clay product closely resembling our present-day brick was among the earliest materials used for paving streets and roads. The first brick pavement constructed in this country, however, dates back no further than 1872, and to Charleston, W. Va., belongs the distinction of having been the first American city to employ brick for paving.

For a number of years after being introduced into this country the use of paving brick was principally confined to city streets, and, owing to frequent inferiority in the quality of the brick and lack of care in construction, very few of the early pavements proved satisfactory. Even now, after the experience of 40 years has demonstrated that it is entirely practicable to construct satisfactory brick pavements when proper care is exercised, and that much waste results from the use of poor materials or faulty construction, instances can frequently be found where brick pavements have wholly or partially failed from causes which might easily have been prevented.

Country roads paved with vitrified brick are becoming quite common in many of our States, and, owing to the general satisfaction which these roads are giving when properly constructed, it is probable that their mileage will continue to increase rapidly. The principal advantages which brick roads possess may be stated briefly as follows: (1) They are durable under heavy traffic conditions; (2) they afford easy traction and good foothold for horses; (3) they are easily maintained and kept clean, and (4) they present a very pleasing appearance.

The principal disadvantage is the high first cost. The defects which frequently result from lack of uniformity in the quality of the brick or from poor construction are usually to be traced indirectly to an effort to reduce the first cost or to a popular feeling that local materials should be used, even when of inferior quality.

This bulletin purposes to furnish information relating to the construction of brick roads and to supply suggestions for aiding engineers in preparing specifications under which such work may be satisfactorily performed. One of the most essential features of the construction of brick pavements is the selection of the brick, since the success or failure of such pavements depends to a large extent on the character of the material used. In order that the significance of the varying physical characteristics observed in brick manufactured under different conditions may be more readily understood, a brief discussion of the raw materials and processes used in the manufacture of brick will be given.

Paving brick are made from shales and fire clays. The "lean" or less refractory varieties of these materials, which are found in the carboniferous deposits broadly distributed throughout the United States, are best adapted for this purpose.

Shales frequently occur in such quantity and are so located that they may be readily excavated by means of a steam shovel or other mechanical device. Occasionally, however, the deposits are comparatively thin and underlie other mate-

\*These excerpts from a recent bulletin of the National Department of Agriculture bear directly upon the rapidly increasing use of brick in this country in the construction of roads and streets.

rial, making it necessary that they be mined. Fire clays are usually found interstratified with coal deposits which may or may not be workable, and must, therefore, generally be mined. The principal difference between fire clays and shales, in so far as the manufacture of brick is concerned, is essentially a difference of color in the finished product. The shales always contain iron in some form, and brick made of shale are usually red. Fire clays are free from iron, and should produce a light-colored brick. Some low-grade fire clays, however, may be darkened by certain firing conditions too complicated to be discussed in detail here.

Shales and fire clays as they occur in nature are not always well suited for use in the manufacture of paving brick, but must frequently be subjected to some modifying treatment before being used. In general, deposits of these materials occur in layers or strata, and the different strata are almost always slightly dissimilar in both physical and chemical composition. By carefully mixing the materials from different strata or from different parts of the bank, therefore, a resulting material of the desired character may usually be obtained. It not infrequently happens, however, that in order to secure the best results sand or surface clay must be added in an amount depending on the relative "leanness" or "fatness," the lesser or greater amount of silica, of the material used. In this connection it may be noted, also, that a chemical analysis of a given fire clay or shale does not necessarily indicate its fitness or unfitness for paving brick. The reason for this is that the quality of the brick after "firing" is no less dependent on the physical arrangement of the minerals than on the chemical composition of the material.

The general processes of manufacture are the same for both fire clays and shale. The raw material in either case is crushed to comparatively small fragments and conveyed by some convenient means to a grinding machine, known in the industry as a dry pan. Briefly, this machine consists of a solid iron plate, approximately five feet in diameter, surrounded by a perforated iron surface about two feet wide. Outside the perforated surface is a rim some 15 inches in height which serves to prevent the material from escaping otherwise than through the perforations. Upon the solid plate rest two massive crushers or mullers, each weighing from two and one-half to three tons. The pan is revolved rapidly, causing the mullers to rotate by friction. The material is ground between the mullers and the plate and thrown out by centrifugal force toward the rim, where it escapes through the perforated surface into an elevator, by means of which it is conveyed to the screens.

The particles too large to pass the screens, which should not exceed three-sixteenths inch in mesh, are returned to the dry pan, while the screened material is passed to the mixing machine or pug mill by means of conveyors. In the pug mill water is admixed with the clay to form a stiff mud, which is fed continuously into the brick machine proper.

The brick machine is an extremely heavy mechanism. It consists essentially of an auger or propeller conveyor, a tapering barrel, and the die or former. The material is forced by means of the auger conveyor into the tapering barrel, which



terminates in the die, and issues from the die in a solid column under heavy pressure. For "side-cut" brick this column is approximately  $4\frac{1}{2}$  inches by 10 inches in cross-section, and the brick are formed by cutting through the column, by means of an automatic device, at intervals of about  $3\frac{1}{2}$  inches. For "end-cut" brick the column has a cross-section approximately 4 inches by  $4\frac{1}{2}$  inches, and is cut into sections about 10 inches long.

Paving brick, whether end or side cut, have usually in the past been re-pressed. This process smoothes and rounds the corners, and forms on one side of each brick small lugs or projecting trademarks which serve to produce uniform spacing between the courses of the pavement. Suitable lugs may also be formed at the time the brick are cut, however, and the process of re-pressing is then omitted. Much discussion has taken place as to which of these methods produces the better brick, and each method has many advocates. Entirely satisfactory pavements have been made from both re-pressed and un-re-pressed brick, however, and it is very doubtful if the failures which have been observed in connection with either type could rightfully be attributed to this particular feature in the process of manufacture.

Special shapes, such as nose bricks for use next to car tracks, and hillside block, which have one side thicker than the other and which are used on steep grades in order to give the pavement a rough surface, may be made either by special die or special re-press molds.

The next step in the process of manufacture consists in drying the brick. In a properly systematized plant the brick are stacked upon drier cars as they leave the presses in such manner as to permit a free circulation of air between them. The loaded cars are immediately run into a tunnel drier, the temperature of which is maintained at about 100° F. at the entering end. As cars containing "green" brick enter one end of the tunnel, which is usually more than 100 feet long, other cars containing dry brick are being removed at the opposite end. Air circulation in the dryer is effected by means of fans or high stacks. During drying the brick lose an amount of moisture equivalent to from 15 to 20 per cent. of their own weight.

The brick leave the dryer ready for burning, which is the last and undoubtedly the most important step in the process of manufacture. Upon the burning depends largely the quality of the finished product, and it requires the greatest skill so to regulate the temperatures and firing periods as to obtain the best results from a given material. Experience alone can demonstrate the manner in which the burning must be modified in order to suit varying sets of conditions. The kilns in which the burning is done are made of brick and are provided with numerous furnaces. The brick are placed in the kilns so as to permit a free circulation of the gases of combustion and the heated air.

Paving brick should be uniform in size, reasonably perfect in shape, and free from ragging, due to friction in the die, or kiln marks, caused by impressions from overlying brick in burning. They should be tough in order to resist crushing, hard in order to resist abrasion, and uniformly graded in order that the pavement may wear evenly. Each brick should be homogeneous in texture and free from objectionable laminations or seams. Fire cracks, caused by too rapid firing, should be limited in number and extent, and the entire brick should be vitrified and should contain neither unfused nor glassy spots.

The color is a valuable guide in inspect-

ing brick from the same plant, but it is of little importance when the brick to be compared are from different factories. For brick manufactured from a particular raw material the color indicates, in a measure, the temperature to which they have been subjected, provided they have been burned under identical conditions. Ordinarily, the darker the color, the higher the temperature and, presumably, the better the brick. The surface color of brick may be very misleading, however, and the color of the interior should be used in making comparisons.

The specific gravity of paving brick was formerly considered of importance in judging their fitness for use in pavements. It has since been generally conceded, however, that a knowledge of the specific gravity is of comparatively little value. The specific gravity of shale brick is ordinarily between 2.20 and 2.40, and of fire-clay brick between 2.10 and 2.25.

The absorptive power of brick, like their color, is a matter of very slight importance, except for comparing specimens manufactured under identical conditions. It is true that the porosity of the brick increases with the power of absorption, but it is very doubtful if any paving brick possessing an objectionably high absorptive power could pass even a very casual inspection. In other words, a high degree of porosity always manifests itself in other ways more clearly than in the ability of the brick to absorb water.

The crushing strength of good paving brick varies from 10,000 pounds to 20,000 pounds per square inch when the load is applied uniformly over the entire top surface of the test specimen, and may be much greater if the area over which the load is applied is less than that of the top surface. Since paving brick in use are seldom required to withstand a pressure of more than about 2000 pounds per square inch, and since inferior brick may possess relatively very high resistance to crushing, a knowledge of the crushing strength is clearly of little value in comparing the relative excellence of different makes of brick. It is, therefore, usually considered unnecessary to specify a definite requirement as to the crushing strength of paving brick.

The cost of brick pavements varies widely, and is affected by so many influences that it is difficult to attempt to derive a general expression showing the relation between probable cost and local conditions. The prices of brick, as also the prices of the various materials entering into the foundation, vary greatly, according to the locality and the freight rate. The cost and efficiency of labor is also far from being constant. Furthermore, the material composing the subgrade and the method of preparing it may exert a marked influence on the cost of the pavement. The following statements regarding cost, then, must be considered as representing average conditions, and care must be exercised in applying them to special cases. They are intended as a guide in preparing estimates of probable cost.

The grading is usually paid for by the cubic yard, and the cost, of course, varies with the character of the soil and the necessary amount of excavation. In light, easily loosened soils, grading may usually be done at from 25 to 40 cents per cubic yard. In hard earth containing more or less loose rock, the cost per cubic yard generally runs from 40 to 75 cents, while grading in solid rock may sometimes cost as much as \$1.50 per cubic yard. The cost of the rough grading should be considered entirely apart from the cost of the pavement.

The cost of shaping and rolling the

subgrade after the rough grading is completed will ordinarily vary from 3 to 5 cents per square yard. This cost should be included with the other items which make up the cost of the pavement.

The cost of the curbs varies with the character of the material used. Stone curbs ordinarily cost from 25 to 75 cents per linear foot, while curbs made of Portland cement concrete cost, as a rule, from 20 to 50 cents per linear foot. The higher prices for the concrete curbs apply principally to special cases requiring extra form work or considerable extra material.

The cost of the foundation depends largely on the cost of the materials with which it is constructed. Gravel or broken stone can usually be spread and rolled at from 5 to 7 cents per square yard, while the cost of these materials, delivered, varies from 60 cents to \$2 per cubic yard. Mixing and placing concrete usually costs from 35 to 75 cents per cubic yard, according to the amount of work to be done and the methods employed, and the cost of the materials, delivered, ordinarily varies from \$2.50 to \$4.50 per cubic yard of concrete.

The cost of paying brick at the kiln varies from about \$12 to \$14 per thousand. Estimating 45 brick to the square yard, each 1000 brick cover approximately 22 square yards, which makes the cost at the kiln per square yards of pavement vary from 55 cents to about 65 cents. These figures mean very little, however, unless the kiln is located conveniently near where the brick are to be used, for freight charges not infrequently amount to more than the cost of the brick.

A force consisting of one paver and five laborers should place on an average about 220 square yards of brick per 10-hour day, while supervision, rolling and incidental expenses are ordinarily equivalent to the cost of hiring about three and one-half additional laborers.

If C equals cost of cement per barrel, S equals cost of sand per cubic yard, A equals cost of coarse aggregate per cubic yard, B equals cost of paving brick per 1000, and L equals cost of labor per hour, with all materials considered delivered on the work and all costs expressed in cents, then the probable cost of constructing a brick pavement, including the subgrade, a 6-inch concrete foundation, and suitable curbs, may be estimated by substituting in the formula:

$$\text{Cost per square yard} = 1.90 L + .213 C + .138 S + .157 A + .045 B.$$

The cost as estimated from this formula should, however, be increased by about 10 per cent. to allow for wear on tools and machinery and to guard against unforeseen contingencies. If it is desired to use a different thickness of foundation, it is safe to assume that each inch subtracted or added to the thickness of the foundation will make a corresponding difference of from 8 to 12 cents in the cost per square yard.

If brick pavements are properly constructed at the start, the work of maintaining them is very slight. Under the closest inspection, however, some inferior material is likely to become incorporated either in the foundation or in the surface, and it is, therefore, very important that a brick pavement be very carefully watched for the first few years of its life to see that no unevenness develops either because of defective bricks having been used in the surface or because of insufficient support from the foundation at any point. Whenever any unevenness develops, it should be immediately rectified. Otherwise the pavement will become irregularly worn in the vicinity of the defects and expensive repairs will eventually be necessary.

Not infrequently weak spots develop in broken stone or gravel foundations, owing to surface water finding its way through joints in the pavement which have not been properly filled with grout. Careful observations of the joints should, therefore, constitute a part of the early maintenance work, and any defective joints discovered should be immediately remedied. Where the foundation is constructed of concrete, however, slight defects in the joints seldom result in any very serious damage.

If care is exercised to correct all defects which appear within the first few years of the life of a well-constructed brick pavement, the work of maintaining the pavement proper should thereafter, except for cleaning, be almost negligible. The shoulders and drainage structures, of course, need occasional attention, just as in the case of any other pavement, but if they are properly constructed at the start repairs will usually be very slight.

The life of a well-constructed brick pavement cannot be estimated with any great degree of exactness, first, because the traffic conditions are constantly changing, and, second, because no brick pavement which has been constructed in accordance with the best modern practice has yet worn out. The amounts of wear sustained by given pavements during comparatively long periods of years have been determined in several instances, but have usually been so small as to make the probable terms of service appear almost indefinite. It is evident, however, that in order to secure the full benefit of this excellent resistance to wear the surface of the pavement must not be permitted to become uneven because of the failure of isolated bricks.

Before concluding this discussion of brick pavements, it would seem desirable to emphasize the importance of proper engineering supervision. In the past many communities have expended large sums in efforts to improve their public highways without first having secured the services of some one competent to plan and direct the work. The results have usually been very unsatisfactory under such circumstances, and have frequently served to discourage further effort. One of the mistakes most commonly observed consists in constructing some expensive type of pavement on a road where the location is faulty or the grades are impracticable. Not infrequently sharp angles in the alignment or abrupt changes in the grade, which might be easily and inexpensively remedied by an experienced engineer, are left to impede traffic throughout the life of a costly and perhaps durable pavement.

Even in constructing common earth roads it is doubtful economy to dispense with the services of a competent engineer, and if any considerable quantity of work is to be done, such services should certainly be secured. Since brick pavements are probably more expensive to construct than any other type of pavement at present used for country roads, it is all the more important that their construction should be carefully planned and well executed.

President J. H. Fitzgerald of the Davis Coal & Coke Co. has announced the appointment of A. W. Calloway as vice-president and general manager of that company, assuming his duties not later than November 1. He will make his temporary headquarters in Baltimore, but later on will establish permanent offices in Cumberland, Md. Mr. Calloway is at the present time general manager of the Rochester & Pittsburgh Coal & Iron Co., with offices in Indiana, Pa.



TWENTY ACRES OF BARRELED NAVAL STORES FOR EXPORT FROM THE SOUTH.

This view of the naval stores yard of the Hutchinson Island terminal of the Seaboard Air Line Railway at Savannah, probably the largest of the kind ever presented, shows the volume of the industry. The barrels cover an area of 20 acres. They number 70,000. The value, at the conservative figures of \$8 per barrel, reaches in

### INCREASING ACTIVITY IN IRON.

#### Advance in Price in Birmingham Market for Next Year's Delivery.

[Special Cor. Manufacturers Record.]

Birmingham, Ala., September 22.

Pressure has finally been brought to bear on some of the producers to open their books for the first quarter of next year in a limited way. From 5000 to 6000 tons were booked during the past week for delivery during the first quarter of 1914 at \$11.75 per ton at the furnace, No. 2 foundry basis. Some few sales were made at a price as high as \$12 per ton at the furnace. The bulk of the tonnage was sold to "old line" customers. Quotations made on iron for delivery the first quarter of next year range in price from \$11.75 to \$12 per ton at the furnace. In addition to the 1914 sales, an aggregate of 8000 to 10,000 tons was booked for delivery the balance of this year on basis of \$11.50 per ton at the furnace. Half of this tonnage was booked for movement into Birmingham's competitive territory, and the balance for Southern delivery. A sale of 1200 tons of charcoal iron was made, and an aggregate of 2000 tons of special analysis coke iron for delivery over the fourth quarter of this year. The special analysis coke iron was sold at a premium of \$1 to \$1.50 per ton over standard Alabama iron. Charcoal iron is quoted at \$24.50 to \$25 per ton at the furnace. The 6000 tons of standard iron was sold for delivery in car lots, 100-ton lots and up to 1000-ton lots.

The general feeling in iron circles is decidedly more optimistic, both on the part of buyers and producers. The large buyers have been very much alive to the situation, and have not lost an opportunity to reasonably cover their requirements for the entire current year. Inquiries continue to come in, and pressing requests are made for unfilled tonnages due as well as anticipated shipments. With the passing of the hot days the lack of equipment constitutes the only drawback in making prompt shipments. The railroads are exerting themselves to accommodate the patrons located on their lines, but are unable to do so in anything like a satisfactory way. However, they are doing their best under present existing circumstances. The most serious aspect facing the seller and buyer, as regards loading and delivery of the iron bought, is the approach of what promises to be an active cotton season. However, the wise buyer has anticipated this trouble to a great extent and has even taxed his storage space by piling iron during the summer season.

The following table of prices governs the market for fourth quarter (1913) deliv-

livery, based on No. 2 foundry iron, f. o. b. cars Birmingham:

No. 1 foundry, \$12.  
No. 2 foundry, \$11.50.  
No. 3 foundry, \$11.  
No. 4 foundry, \$10.50.  
Gray forge, \$10.  
Mottled, \$9.75.  
Standard basic, \$11.  
Off basic, \$10.50.

An improvement in the pipe market has not yet been reached. Producers are running their foundries on about the same average time as for the past several months. However, they are not losing the opportunity of increasing their pig-iron stock in order to be in readiness for the anticipated activity. Following are quotations per net ton f. o. b. cars Birmingham: Four-inch, \$22; six-inch and eight-inch, \$20.50, with an average of \$20 per ton for the larger sizes. Class "A," or gas pipe, is quoted at an advance of \$1 per ton over that asked for class "B."

The coal and coke markets hold up reasonably well. First-class domestic coal is quoted at \$2.75 to \$3 per ton at the mines. Furnace coke is quoted at \$2.75 per ton at the ovens, and strictly hand-picked cupola coke at \$3.75 to \$4 per ton at the ovens. Inquiry has been submitted and sale is pending for 6000 to 7000 tons of smelter coke for delivery over the next 60 days.

To Birmingham's long list of manufacturing industries is to be added a \$200,000 establishment for the manufacture of shoes, to be known as Caruthers-Irwin Company. The capacity of the plant, as opened, will be 1000 shoes per day. The field of activity for such an enterprise in the Birmingham district alone is great. In the past the district has drawn its supply of shoes through the branch offices of the several large shoe houses of the country located in Birmingham. The district's shoe patronage of "Birmingham-made product" would be sufficient to insure the success of a shoe factory of gigantic proportions. The men behind the enterprise have had long and varied experience in the shoe business in other parts of the country, and are at present engaged in the wholesale handling of shoes.

Another concern, which has maintained an office in Birmingham for several years past, has awakened to the realization of Birmingham's strategic position for the general distribution of its products—it is the Garlock Packing Co. of New Orleans. It manufactures a high-test packing and has always enjoyed a remarkably good business in the Birmingham district. A suitable building has been leased by this concern, and it has made formal announcement that it will remove its business to Birmingham.

Diversified industries of the character

above mentioned are requisites in the making of a stable city and community, and it is just such institutions that the citizens of Birmingham are reaching out for and not losing an opportunity to grasp when the occasion offers. Industries of the kind mentioned will find their cost of operation materially reduced by reason of cheap power, which is to be furnished by the large hydro-electric plants now under construction in the State of Alabama, and they are to be congratulated on their decision to get in "on the ground floor" and establish themselves while the time is ripe.

In the past the city has been handicapped for facilities in the handling of large conventions, both as to hotel accommodations and adequate meeting-place. With the completion of the three hotels now under way—one 12-story, one 10-story and one 8-story—and the building of an Auditorium with proper seating capacity, for which a bond election will be called, Birmingham will be in position to invite the great and instructive conventions that are being held elsewhere each year, and in the inviting of them will feel safe in securing and retaining her pro rata share of annual and sporadic gatherings.

### To Increase River Shipping Facilities

Board of Trade,

Palatka, Fla., September 20.

Editor Manufacturers Record:

Palatka is planning the construction of municipal docks and warehouses or else the organization of a terminal company to do the work. Two or three propositions are under consideration. Since the burning some time ago of the Atlantic Coast Line dock and warehouse all other facilities have been put to the test in taking care of a growing business. Settlement is constantly increasing along the St. Johns River, and as the settlers have water craft of one form or another, it is becoming impossible to properly accommodate all comers to our wharves. A small dock, with track and truck, will be built very soon alongside the county bridge that crosses the river from the foot of Laurel street. This structure will extend to the drawbridge and be large enough to amply accommodate what is known as the "mosquito" fleet, which promises to be largely increased this winter. The large dock to care for the regular steamer lines, as they may elect, is a more costly and ambitious project, and plans are not fully matured.

The coming of Alfred Burbank of California to Tocol, just north of us, on the St. Johns River, means much to this section; indeed, all of Florida. He is now collecting seeds and plants from various parts of the world for experimental work

on his large property, which will be an added and valuable attraction to the many already existing on our great river. It is the opinion of Mr. Burbank that "Florida is to become one of the richest agricultural sections of the Union." The settling here of a member of this family of wizard horticulturists is arousing widespread interest, and his work must prove of unlimited benefit in helping to bring Florida into its own.

Experiments made this season over a wide territory in all directions tributary to Palatka show that Irish potatoes can be grown as successfully as at Hastings, a few miles east of us. In much of the territory flowing artesian wells can be had, and this means water for crops and all uses whenever it is needed.

One of the crying needs of Palatka just now is a house and development contracting concern, as houses to rent are scarce.

The land and industrial department of the Southern Railway is said to be planning some practical investigations and tests of extensive clay and gravel beds along the Georgia Southern & Florida Railway, our city being the southern terminus of that line, it being a part of the Southern Railway system. Clay and gravel are not any too abundant in Florida. It is believed that these important deposits in the northern part of Putnam county can be developed profitably, but not by wheelbarrow as at present. It seems rather unbusinesslike to haul sand and gravel 170 miles from Savannah to Jacksonville for concrete work when practically as good material can be had here in less than half that distance.

MOSES FOLSOM, Secretary.

### Asparagus in Georgia.

[Special Cor. Manufacturers Record.]

Marshallville, Ga., September 19.

The farmers of this immediate section have been for the past two or three years putting out large beds of asparagus, with a view to getting the production up to a point where it would be feasible to ship in carload lots. At the beginning of the season this year they had about 500 acres in proper bearing, and a beginning of carload shipments was made. The prices received were very high and the returns so satisfactory that the acreage will be doubled at once, and by the beginning of the next season there will be 1000 acres in bearing. The growers have been very careful to avoid bringing diseased "caps" into the district, and the consequence is the plants are all healthy and the product first-class in every particular. This big production of asparagus will doubtless form the basis of a considerable canning industry in the near future.





TWENTY ACRES OF BARRELED NAVAL STORES FOR EXPORT FROM THE SOUTH.

excess of half million dollars. Much of this production goes to foreign countries, and Savannah's position as the third cotton exporting port, handling 2,000,000 bales of the fleecy staple, enables the naval store operators to secure advantageous shipping arrangements.

### TO ATTRACT TO GEORGIA.

State Chamber of Commerce for New Men, New Money and New Industries.

[Special Cor. Manufacturers Record.]

Macon, Ga., September 20.

The Georgia Chamber of Commerce, organized in this city last Tuesday, brief mention of which was made in this week's MANUFACTURERS RECORD, has already had one excellent result—that of welding the various sections of the State into a oneness heretofore lacking. There has been a little too much sectional feeling in Georgia in the past for the State to get the best benefits from the efforts put forth to attract new men, new money and new industries. The meeting of Tuesday was a regular love-feast of the sections, and from this time forth the spirit exhibited will be that of the Three Guardsmen—"one for all, and all for one"—the main idea being to bring Georgia as a whole to the attention of the world, and, after men and money have been attracted to the State, leaving it to the particular attractions of each section to secure for it what benefits they can.

The object of the organization is declared to be to "promote the agricultural, commercial and industrial welfare of the State of Georgia, and to improve the general social conditions of the State by promoting local organizations with the same general purposes in the various towns and counties of Georgia; by bringing about the co-operation of these local bodies and all public-spirited citizens, whether farmers, bankers, manufacturers, corporations, professional or business men, with the various city, town, county, State and United States authorities to this end, especially along such lines as better educational facilities, better sanitary conditions, modern road building, improved agricultural methods, greater interest in the manufacture of raw materials, in dairying, truck, poultry and cattle raising, and in the continuous advertising to the world of the attractions and resources of Georgia."

Numerous addresses were made, some of them having been carefully prepared with a view to having them published in pamphlet form for wide distribution, while others were of the offhand variety. Most of the speakers laid particular stress upon the necessity of securing the adoption by Georgia farmers of crop diversification, as well as scientific methods of cultivation and soil conservation, to the end that the millions of dollars now being sent out of the State for food products shall be kept at home and the cotton crop thus made a profit crop.

A very striking talk was made by R. W. Parker, Mayor of Madison. Mr. Parker said the bankers and business men of Madison had made a close investi-

gation of the matter and had found that a large percentage of the land in the county of Monroe was being farmed at an actual loss each year. This loss falls sometimes on the owner, sometimes on the tenant and sometimes on the merchant who advances supplies on the crop, but each year somebody loses. To offset this continual loss the plan has been adopted of encouraging the cultivation of so many acres of grain for each "one-mule" farm, with the hope of enabling such farm to carry most of its own living expense account. As the "encouragement" of the average banker or merchant in dealing with the cotton farmer has the force and effect of a command—the alternative being refusal of credit—the adoption of the grain-raising idea will doubtless become general throughout Monroe county. Mr. Parker said the plan had worked well so far.

Another interesting talk was that of Miss Mary E. Creswell, head of the Girls' Canning Club movement. Miss Creswell told of the beginning of the movement in a very small way in Georgia, being confined the first year to a few counties and a few members in each. In one or two years it grew until there were clubs in 15 counties and the members numbered 1800. This year it is spread over a number of the Southern States and there are 25,000 girls enrolled in membership. Miss Creswell gave an interesting account of how the girls are taught not only to can vegetables, fruits and berries, but also how to raise them, each girl planting and cultivating a tenth of an acre. They are taught also many useful lessons in domestic science, and the usefulness of the clubs is not only measured by the dollars and cents realized from the tenth acre, but has an effect immeasurable in teaching the wholesomeness of fruits and vegetables and in relieving many homes of the bread-and-meat sameness which has long afflicted them.

E. H. Hyman, secretary of the Macon Board of Trade, in a speech that stirred up great enthusiasm, presented a plan for running an advertising train from Georgia through the Middle West next June. The idea is to carry exhibits and advertising matter from the various sections of the State, and it is expected that 100 men will go along to tell of Georgia's advantages and resources. Resolutions endorsing the enterprise were unanimously adopted.

W. B. Powell, recently come to Columbus, Ga., from Tampa, Fla., where he did excellent work as secretary of the Board of Trade, gave a practical talk on how to secure immigration of the kind desired. He told of the hundreds of thousands of people who each year go through Georgia to reach Florida, and said the Georgia

people should change the old song, "Marching Through Georgia," to "Marching To Georgia."

Strong papers were read by Wilmer L. Moore, president of the Atlanta Chamber of Commerce; L. P. Hillyer, president of the Georgia Bankers' Association; S. W. McCallie, State geologist, and John T. Jones, president of the Georgia Agricultural Society. An interesting point emphasized by Mr. McCallie was the fact that limestone exists in large quantities near Albany, thus being available for the farmers throughout a large region in which lime for sweetening and fertilizing the soils is now very expensive. He also called attention to large deposits of kaolin in the central portion of the State, and showed porcelain ware of a fine quality made from it somewhere in the North, which, he said, ought to be made in Georgia.

Other speeches were as interesting as those to which special reference is made here, and all bristled with practical suggestions.

Such was the earnestness of the meeting that when it came time to call for \$2000 for the purpose of paying preliminary expenses the amount was subscribed in a very few minutes, and numerous subscribers stated what they would give, with the addition "and more if necessary." To carry on the real work of the organization a fund of \$75,000 will be raised. A field secretary will be employed, the chief part of whose business will be to visit the various towns and communities and urge the organization of bodies to work in connection with the State organization. Scientific methods of agriculture will be taught and demonstrated in the various sections, for which purpose experts will be employed.

The officers for the first year are: President, Charles J. Haden, Atlanta; vice-presidents, E. W. Stetson, Macon; I. A. Bush, Camilla; R. F. Maddox, Atlanta; H. D. Reed, Waycross; executive committee, Crawford Wheatley, Americus; John D. Walker, Sparta; E. Y. Clarke, Lagrange; L. P. Hillyer, Macon; Wilmer L. Moore, Atlanta; C. L. Wickersham, College Park; W. H. Shippen, Ellijay; G. W. Deen, Waycross; Geo. M. Napier, Decatur; R. D. Cole, Newnan; J. W. Callahan, Bainbridge; B. M. Atkinson, Madison; L. R. Akin, Brunswick; W. T. Dorsey, Athens. The choice of a permanent secretary was left to the executive committee.

When it came to fixing the place for the next meeting, which is to be held in January, the good feeling of the membership was made apparent. An Atlanta man suggested that it be held in Macon, as being the most central point. Senator Deen had a good word to say for

Waycross as the proper place for the meeting, but would not urge it to go there, as Macon seemed the more convenient point. All other places waived their claims, and Macon was unanimously chosen.

GEO. BYRNE.

### ILLUMINATING ENGINEERS.

Features of Their Society's Annual Convention at Pittsburgh.

The program of the Illuminating Engineering Society at its annual convention at Pittsburgh this week included papers by H. B. Wheeler on the lighting of show windows; by S. L. E. Rose on the illuminating engineering laboratory of the General Electric Co.; by C. E. Ferree on the efficiency of the eye under different systems of illumination; by Robert B. Ely on church lighting; by Van Rensselaer Lansingh on characteristics of enclosing glassware; by T. H. Armine on the cooling effect of leading-in wires upon filaments of tungsten incandescent lamps of the street series type; by W. A. Darrah on some theoretical considerations of light production; by Edwin F. Kingsbury on experiments in the illumination of a Sunday-school room with gas; by F. K. Richtmyer on the photo-electric cell in photometry; by W. A. D. Evans on the mercury-vapor quartz lamp; by Clarence L. Law and A. L. Powell on distinctive store lighting; by E. C. Crittenden and A. H. Taylor on the pentane lamp as a working standard; by S. G. Hibben on modern practice in street railway illumination; by William S. Kilmer on hospital lighting; by Evan J. Edwards and Ward Harrison on some studies in accuracy of photometry; by J. E. Philbrick on store lighting; by Ward Harrison and Evan J. Edwards on recent improvements in incandescent lamp manufacture; by M. H. Flexner and A. O. Dicker on factory lighting, and George Claude on neon lighting.

The report of the committee on progress dealt with incandescent electric lamps, electric arc lamps, vacuum tube lamps, gas lamps and appurtenances, the use of acetylene, photometry, ophthalmology, street lighting and other subjects, and held that during the past year the science of illumination has probably made greater progress than at any other similar period, and that while few radical changes for developments have been made in connection with light sources, improvements have been made in mechanical construction of present systems, resulting in increased efficiency, and that illumination has become, as never before, the subject of study by physicists, oculists, architects and others.

The fifth general meeting of the American Iron and Steel Institute will be held at Chicago in the last week of October.



CURTIS BAY PLANT OF THE DAVISON CHEMICAL CO., BALTIMORE, MD.

## Davison Chemical Co.'s Great Baltimore Plant.

With an annual capacity of 220,000 tons of sulphuric, muriatic and nitric acids and other products, the Davison Chemical Co., Baltimore, possesses one of the largest and most complete chemical-producing plants in the United States and is a leading factor in the world's supply of these acids. The main plant, shown in the illustration, has a deep-water frontage on Curtis Bay, on the south side of the Patapsco River. It is a development from the older plant still operating in the Canton section of Baltimore.

The first chemical manufacturing plant of the Davison family was established in 1832 on Federal Hill, Baltimore, making it the first sulphuric-acid factory in the United States. The business has grown until it has attained an extent that requires an immense establishment to meet the requirements and demands for its products.

Its location on Curtis Bay is in every way advantageous, in that the largest steamers may unload their cargo of copper pyrites from Spain and nitrates from Chile, while rail shipments of feldspar and soda cake are received. Steamers can also receive outbound cargoes of the company's products, and the incoming and outgoing railroad shipments by car floats are more easily and expeditiously taken care of than if on switching lines. The rates to the plant are the same as to Baltimore terminals. Barges are also loaded or unloaded at the dock, facilitating the sending of shipments to steamer lines, receiving supplies, etc. It is found that freight cars destined to delivery by car float are placed upon the floats and reach destination directly at a distinct saving of time over the switching deliveries. The car floats belong to the railroad companies, but those of each of the railroad lines making deliveries there land at the Davison Chemical Co.'s steel car bridge. The private locomotives and trackage of the company handle the cars after delivery by the car float.

By means of the electrically-operated unloading equipment shown at the pier alongside of which the steamer is docked, the unloading is done so rapidly that the largest ocean steamer may be unloaded in one day.

The buildings shown in the illustration include the tall acid towers, 128 feet high; the chemical treating buildings; acid chambers; machine shops, in which all repairs about the plant are made and in which parts of machinery are constructed; large refining and finishing plant for general chemicals, etc. A complete chemical and research laboratory is maintained, by means of which the company develops its processes and determines the value or lack of value of newly-presented chemical developments.

The barge shown at the car bridge is one of the Baltimore & Ohio car floats of the type which handles cars between the plant and railroad terminals. The smaller barges for transporting materials between steamer wharves and the plant are shown alongside the bulkhead in front of the plant.

The company's holdings consist of 410 acres of land, with a deep-water frontage of two and a half miles. The present buildings and plant occupy 40 acres of this tract. The land on which the buildings are situated is 20 feet above the water level and rises to height of 130 feet, including a gravel formation from which it is planned to ship out large quantities of material for marketing. The land rises still higher back of the slope, making excellent sites for residences or other buildings. In shipping out the gravel the company will level the land, making it well adapted for industrial buildings.

In order to handle the shipping of this gravel efficiently, of which there is a supply of over 1,500,000 cubic yards developed by borings and still more not examined, two extensive docks are to be completed in the near future and form a part of a comprehensive system of docks, which the company has planned of sufficient size and frontage to accommodate a number of the largest ocean-going vessels. There are to be 11 docks, in addition to those noted, and all built to the pier-head line as laid down by the United States Government authorities. A great advantage of the location of the frontage for the docks is the natural depth of water from 40 to 50 feet for most of them and the proximity to the 30-foot dredged channel into Curtis Bay, with width 300 feet, which is shortly to be increased to 35 feet depth. In the development of docking facilities and of new sites for industrial plants this tract of 410 acres and the long deep-water front will inevitably form an important factor as the broad plans of the company are put into effect. The developments of the South Baltimore Harbor & Improvement Co. are keeping pace with other developments, so that a residence section for a large population is conveniently located.

In addition to its Baltimore properties, the company owns a tract of Florida phosphate land near Bradley Junction which experts report as having at least 7,500,000 tons of high-grade phosphates. This tract is not being mined, but is held by the company for future use and protection when available phosphate lands may be closely controlled.

The wide distribution of the company's products includes its uses for not only fertilizer manufacturing, but in steel works, copper works, chrome works, mak-

ing dynamite, glycerine refining and many others.

The capitalization of the company is as follows: Six per cent. gold bonds authorized, \$2,000,000; issued, \$1,500,000, maturing in 1932; 7 per cent. preferred stock issued, \$600,000; authorized, \$1,500,000; common stock, \$1,500,000 authorized and issued, fully paid. The officers are: C. Wilbur Miller, president; Geo. W. Davison, vice-president; John Luntz, secretary-treasurer; E. E. Wells, auditor, and Ernest B. Miller, manager of the plants. The officers, excepting the auditor, are directors, besides whom are the following directors: Robert Garrett and Henry F. Baker of Robert Garrett & Sons, John J. Nelligan of the Safe Deposit & Trust Co., Baltimore, and Edwin Baetjer of the law firm of Venable, Baetjer & Howard.

### BUOYANCY IN GEORGIA.

Business Men Banking on the State's  
Corn and Cotton.

[Special Cor. Manufacturers Record.]

Atlanta, Ga., September 19.

It is doubtful if there was ever before in Georgia the same buoyant feeling throughout business circles as is now manifest on every hand. The reason is not hard to find. In a year when from various causes the cotton crop is short in Texas and Oklahoma, in Louisiana and Mississippi, and prices are correspondingly high, Georgia farmers are gathering one of the biggest crops in the State's history. In a year when the hot, dry winds of summer withered up the corn and burned out the meadows of the Middle West, Georgia has about the greatest corn yield and the biggest forage crop she has ever produced.

While cotton estimates at this time are little more than guesses, the acreage in Georgia is so large and the condition of the crop so satisfactory that it is felt the yield will surely go as high as 2,250,000 bales, and some well-posted men put it as high as 2,600,000. The biggest crop in the history of the State was that of 1911, when 2,768,627 bales were picked. Georgia received that year for her cotton \$124,562,000. If the crop this year reaches 2,250,000 bales and the price mounts to 14 cents, as it is thought it will, Georgia's return will be \$157,500,000.

Then, too, it is calculated that, because of the shortness of the crop and the continually increasing demand for cottonseed, to be used for lard and other high-priced purposes, the seed from Georgia's cotton will bring from \$15,000,000 to \$18,000,000. Add this to the money for the lint, and there is the stupendous total of from \$170,000,000 to \$175,000,000 which one State will receive for one crop. And when the farmer reflects that he has raised so much corn, oats, hay and other feedstuff that he will have to pay out less of his cotton money than ever before to carry his family and his stock through the coming year, he feels that he has an addi-

tional reason for being happy and contented.

Another thing. This crop is said to have been made at less cost than any of its predecessors. The Georgia farmer has been learning to economize. He has been raising more of his living at home. He has borrowed less money from the banks and taken fewer advances of supplies from the stores, and there will be a much larger profit in his cotton, even aside from the higher price it is expected to bring.

It is believed that the lesson of low prices which the cotton farmers of Georgia learned in the past and which they utilized to such good effect this year will be of lasting value. In the past the cotton money, somehow or other, was always regarded in a "come-easy-go-easy" sort of way, and no matter how much it was, it was always spent. In a good cotton year the family fed well and dressed well, and in a bad year the members did with less of both food and clothes. It will doubtless be different with most of them from now on. Methods of economy will be adopted and maintained. The money from the fat years will be saved to help through the lean years. The farmer now realizes that even the money received from high-priced cotton cannot be spent for high-priced corn and the balance still kept on the right side of the cotton grower's ledger. The Georgia cotton farmer knows now, and he will never forget it, that if he wishes to thrive he must raise his own grain and hay, cure the meat necessary for his uses in his own smokehouse, put up the vegetables for winter use from his own truck patch. He knows that he must rotate his crops, unless he would totally destroy his land; that only by a wise course of diversification can the fertility of the soil be maintained.

If he will follow out this course, the same industry he has exercised in the past will soon make him among the richest and most prosperous of his kind. If he neglects it, he will waste his time, ruin his land and sink further and further into debt and despondency. The soil is here, the climate right, the growing season long, every natural element conspires for his good. The answer to the problem of success or failure is in his keeping, for the choice of methods is his.

### Baltimore & Ohio Sells Notes.

The Baltimore & Ohio Railroad has sold to Spreyer & Co. and Kuhn, Loeb & Co., both of New York, the \$10,000,000 of 4½ per cent. equipment trust certificates which were approved last spring by the Maryland Public Service Commission. They are secured by 151 locomotives, 111 pieces of passenger train equipment and 3800 steel gondola and hopper cars, in addition to about \$2,000,000 in value of other equipment. They mature in 10 years.



## Millions of Acres of Truck Lands in the South \*

The two great influences affecting the establishment of Southern vegetable growing have been well recognized from the inception of the trucking industry. They are the normal conditions which affect all crops and all classes of agricultural development.

The growth of the trucking industry has been relatively slow, covering a period dating from about 1840 to the present time. The earlier attempts at winter vegetable growing were very decidedly of the experimental nature. The men who undertook the work assumed great risks, and many were but partially successful. They were either men who had removed from more northern localities, and who needed to become familiar with new surroundings, or they were men who had become habituated to the handling of crops other than the special vegetables of the trucker's business. The latter were familiar with the extensive tillage of large acreages, but they needed to acquire a new fund of experience with regard to the intensive management of small areas of vegetables. Consequently, the last 30 or 40 years have constituted a period within which the trucking business has been experimentally developing a knowledge of soils, of crop adaptations, of soil-management methods, and of fertilizer practice. These problems have affected the development of territory already recognized as lying within the trucking zone, and very strongly the occupation of virgin territory supposed to possess latent capabilities for the establishment of the trucking industry.

Recently it has been possible, through the completion of soil surveys in the potential trucking regions, to accumulate a fund of information regarding basic soil facts which will supplement the climatic and transportation information already at hand and thus serve to indicate the most available areas for the extension of vegetable production, the soils best suited to the growing of each of the special crops, and, to a degree, the methods of soil management which are requisite for the most economical utilization of such added lands. A very important function has also been performed by these soil surveys in forecasting the extent of the available trucking lands under any present conditions of demand for their products and of skill in their management.

Among all the truck soils in use or available along the middle Atlantic coast, the Norfolk fine sandy loam easily occupies the premier place both with regard to its total extent and to its wide range of possible products. This soil has been formed as a sedimentary deposit, laid down under the waters of a more extended marine occupation, and later elevated to become a portion of the present land area. The mineral particles which constitute the soil and subsoil have been derived from a great variety of sources within the present Appalachian Mountain region, the Piedmont Plateau and the older and more elevated sections of the Coastal Plain. In consequence, the mineral sources of its soil fertility consist of a mingling of nearly all classes of minerals which may contribute to the nourishment of plants. Its inherent fertility has been well provided for through natural process of formation.

It is not so well provided with the organic remains which are usually denominated as "humus." In fact, one of

the great problems in the management of this soil is that of incorporating organic matter in the surface soil.

Physically, the Norfolk fine sandy loam is almost ideally constituted for the intensive growing of crops and the easy mechanical handling of a soil mass. The surface soil to a depth which varies from 6 to 15 inches is a mealy, fine-grained, fine sand. It possesses enough material finer than sand to render the whole mass somewhat cohesive when moist, but not enough to cause the surface to bake and become compacted after spring or summer rains. It rarely or never forms clods, no matter in what condition of moisture it may be plowed or cultivated. These physical properties are of the utmost importance in the intensive cultivation of tender vegetables and in securing a proper surface and internal drainage of the surface soil.

The surface soil of this type grades imperceptibly downward into a more cohesive and dense subsoil, which, at a depth of two feet or more, becomes sufficiently consistent to be termed a sandy loam or sandy clay loam. This retentive subsoil is also a great factor in the control of the tillage methods and the use of the type. It serves to retain, at a reasonable depth, an abundant supply of soil moisture for crop use in the latter portion of the growing season without at the same time rendering the soil type poorly drained and water-logged. It serves to aid in the retention of the very soluble fertilizer, like nitrate of soda, which are commonly used to a considerable extent in vegetable forcing. It is favorable to the growing of many of the salad vegetables and for all plants which depend upon their foliage or fleshy substance for their commercial value.

As a result of these properties, the Norfolk fine sandy loam is of prime importance for the production of cabbage, lettuce, early Irish potatoes, cucumbers, radishes, turnips, carrots, beets, eggplant and peppers. It may also be used for the growing of sweet potatoes, cantaloupes, tomatoes, peas, beans, strawberries and squash. Other types should be preferred for the best development of quality and for early maturity of these latter crops.

The Norfolk fine sandy loam is so well suited to cabbage that it is locally known as the "cabbage soil" in the vicinity of Charleston, S. C. It is the chosen soil for lettuce growing in the vicinity of Wilmington, N. C. It is easily the premier soil for the production of large yields of Irish potatoes in all of the more northern portions of the trucking region. Farther south it is excelled by some other soils. It will not mature this crop at a period quite so early as the more sandy soils of the same and other soil series, but this is usually compensated by larger yields per acre.

The soil survey has encountered no less than 4,682,992 acres of this one soil type in the Southeastern and Southern States, and it is probable that a total area of 20,000,000 acres will ultimately be found to exist. Not one-tenth of 1 per cent. of this total area is now occupied for truck-crop production, and it is probable that not 25 per cent. is used for any agricultural purpose aside from possible grazing.

The Norfolk fine sand is probably the earliest type of soil upon which the trucking industry is safely conducted. It owes this distinction of quickly maturing the crops planted to the fact of its physical composition. It is derived by the same

processes and from the same materials as the Norfolk fine sandy loam, but it differs from that type in its texture of soil and subsoil. The surface soil to an average depth of seven or eight inches is a mellow fine sand. It is rarely sufficient loamy to be cohesive, unless immediately after a thorough wetting. This surface soil is underlain by a somewhat more compact fine yellow sand to a depth usually in excess of two feet. At this greater depth the subsoil materials grade into the characteristic sandy yellow loam or brittle sandy yellow clay which is characteristic of all of the loam members of the group.

The greater depth of fine sand as compared with the Norfolk fine sandy loam permits the absorbed rainfall to drain into the subsoil more completely, and the surface temperatures of the Norfolk fine sand are, therefore, somewhat higher than in the more loamy type. It is a soil which retains a moderate amount of soil moisture during the growing season, but is so well drained as to be warm and early in maturing its crops. It does not lend itself to quite so great a vegetable growth as the Norfolk fine sandy loam, but it is more valuable for the growing of crops which produce a seed or fruit for market uses. It is the best soil in the region for the production of early peas, snap beans, cantaloupes, watermelons and extra early sweet potatoes.

Early Irish potatoes, eggplant, cucumbers, and even lettuce and cabbage, are grown, but this is not the preferred soil for any of the latter crops. For extra early truck production it is doubtful if the Norfolk fine sand can be excelled in the more southern portions of the Atlantic coast region.

It is even less extensively developed agriculturally than the Norfolk fine sandy loam, from the fact that its uses as a trucking soil are only coming to be appreciated, and its low water-holding capacity has led to its incomplete development for the growing of the general farm crops. It has been encountered to the extent of 2,014,334 acres in the soil surveys already completed in the Southern and Southeastern States, and probably exists to a total extent of 10,000,000 acres in the Atlantic and Gulf seaboard States.

For the more northern areas, lying from the latitude of Cape Charles to the vicinity of New York city, the Norfolk sand has a high value for truck-crop production. It is even more coarse textured, porous and completely drained than either of the two types already described. It is the most droughty and at the same time the warmest soil which may be occupied for successful trucking in any of the more northern truck-growing districts.

The too great porosity of the Norfolk sand may be artificially counteracted through the application of large quantities of stable manure and the plowing under of green manuring crops. This is a common practice where the type is used for trucking work. Then moderate yields of very early maturity are secured from this soil. It is best suited to the growing of asparagus and watermelons, but may also be used for cantaloupes and sweet potatoes. With other crops irrigation is a prerequisite for the production of a satisfactory acreage yield.

It is probable that less than 10 per cent. of all the area of the Norfolk sand in the Atlantic States is used for any agricultural purposes, and that less than one one-hundredth of 1 per cent. of its available acreage is utilized for vegetable growing. It possesses great possibilities for further development where water is available for irrigation and where a nearby market will assimilate the possible products.

All three types of the Norfolk series occupy upland positions and are among the soils naturally well drained in the region where they occur. This does not mean that every acre of each of these types is adequately drained for trucking uses. It simply means that the soils of the Norfolk series possess drainage advantages over most of their associated types and series of soils.

The soils of the Coxville series usually occur in close association with those of the Norfolk. Their surface soils present much the same appearance, although rather darker in color as contrasted with the pale yellow of the Norfolk soils. The subsoils of the Coxville series are, however, totally different. They almost invariably consist of rather compact sandy clays, mottled gray, yellow and red, as contrasted with the yellow subsoils of the Norfolk series. The Coxville soils usually lie at somewhat lower elevations in the Coastal Plain than the Norfolk and occur extensively in the seacoast sections of Georgia, South Carolina and North Carolina. They rarely attain an elevation of more than 50 feet above tide level, and usually lie at an altitude of 5 to 25 feet above adjacent drainage ways.

The Coxville fine sandy loam is most extensively used for production of truck crops of all soils of the series. The surface soil to an average depth of 6 to 10 inches is a gray or black sandy or fine sandy loam. It is well charged with partially decayed organic matter, and it is usually soft and friable, and not liable to bake or clod. Immediately under the surface soil there is usually a gradation into a gray or drab sandy clay layer, which, at depths greater than two feet, becomes a mottled gray, yellow and red compact sandy clay. The colorations of both surface soil and subsoil are certain indications of less complete drainage than possessed by the soils of the Norfolk series. The accumulation of organic matter in the surface soil shows a moist to swampy surface condition, while the gray and mottled colors of the subsoil indicate that the access of air has not been sufficiently free to oxidize or "rust" the iron-bearing minerals to the characteristic yellow or red colors. That the subsoil is now possessed of a fair degree of internal drainage is shown by the partial mottling of the subsoil where air has penetrated into crevices within it.

Owing to its low-lying position, to the large amounts of organic matter usually present in the surface soil, and to the presence of a compact and clayey subsoil near the surface, the Coxville fine sandy loam is decidedly retentive of soil moisture, it is, therefore, best suited to those truck crops which occupy the land for a long growing period, and for those classes of vegetables which produce succulent foliage or fleshy tubers or roots. It has been used with great success for the growing of early Irish potatoes at some points in South Carolina. The common practice is to plant the potatoes in rows spaced 5½ to 6 feet apart. The hills are set 18 inches apart in the row. The rows are ridged and the fertilizer applications are made in the crown of the row at the time of planting. The crop is cultivated until the first blossoms appear. At that time a row of cotton or corn is planted midway between the rows of potatoes and allowed to mature after the potato crop has been harvested. This system of double cropping is applicable over nearly all of the area of the Coxville fine sandy loam, and its successful development has given a high commercial and agricultural value to the type.

For the best results in crop yields it is found necessary to underdrain the Cox-

\*From the Yearbook of the National Department of Agriculture.

ville fine sandy loam. This may be accomplished through the laying of tile drains at intervals not greater than 100 feet between lines of tile and at a depth not less than two feet from the surface. Such tile drains may have their outlets into open ditches or into larger main lines of tile, ultimately discharging into some of the numerous natural drainage ways which intersect practically all of the region chiefly occupied by the soils of the Coxville series.

The Coxville sandy loam has not been extensively used for the production of truck crops, but it offers opportunities of great value. The surface soil consists of a somewhat coarser and more porous grade of sand than that of the Coxville fine sandy loam. Otherwise the two soils are very similar. The Coxville sandy loam would also constitute a very good Irish potato soil, and would be well adapted to crops of cabbage and of lettuce. These would mature at a somewhat later date than upon the soils of the Norfolk series in the same localities. It is an especially good soil for the growing of certain varieties of strawberries, particularly the Klondyke. This berry is successfully grown upon both the Coxville fine sandy loam and the Coxville sandy loam. It is not so successfully produced upon any soil of the Norfolk series. The great berry-producing sections which center around Conway, S. C., and Chadbourne, N. C., are developed chiefly upon two soils of the Coxville series.

The berries are principally grown under the matter-row system, with the rows laid off 3½ feet apart and the plants set at intervals of about 20 inches in the row. The best growers usually precede the setting of a field to berries by the cultivation of cowpeas, vetch or some other leguminous crop. Large quantities of commercial fertilizer are applied at the time of setting the plants and, in some cases, during intervals between the growing seasons. The berries are shipped from this territory from the middle of April to the first of June.

When crop yields are normal and prices for the fruit are well maintained during the shipping season the best growers frequently harvest from \$350 to \$500 worth of berries per acre, and the high record of \$1000 worth of strawberries has been attained.

The soils of the Coxville series await more extensive drainage operations before they will attain the importance as truck soils which their inherent capabilities warrant.

The soils of the Portsmouth series are closely associated with those of the Norfolk and Coxville series throughout the Middle Atlantic coast section. They usually occupy depressions in the upland portions of the territory along the immediate coast line and for a distance of approximately 50 miles inland. The mineral matter, which constitutes the basis for the soils of this series has been derived from the same sources and deposited in the same manner as in the cases of the Norfolk and Coxville soils; the subsequent history of the soil-forming material has been totally different. Owing to the flat surface of the country and to its slight elevation above the main drainage channels, the tributary streams are infrequent and have not become sufficiently established rapidly to remove the accumulated rainfall. This gives rise to extensive areas of true swamp lands and to far greater areas which remain in a semi-swampy condition until well into the drier months of summer. Such areas occupy the shallow depressions with obstructed drainage, the margins of the true swamps, and such areas as are included within the low swells or ridges

which are characteristic of a considerable portion of the region under discussion.

Within such wet areas there has been a long-continued accumulation of the remains of an abundant vegetation. This surface deposit of vegetable matter gives a uniformly black or very dark-gray appearance to all of the Portsmouth series. In fact, all of these surface soils may be termed "mucky," or are at least well charged with partly decayed organic matter. With this accumulation of vegetable remains is mingled a considerable amount of mineral matter in various stages of subdivision, and a group of mucky soils results.

In practically all cases the subsoil of the Portsmouth group consists of an ash-colored or pale-gray sand, sandy loam or clay. Drainage has been so incomplete there has been little or no admission of air into the deeper subsoil, and it retains its uniform gray color without any "rusting" and oxidation of the iron-bearing minerals. In fact, this coloration is sometimes even emphasized through the leaching effect of the surface waters, which penetrate the subsoil in a condition highly charged with organic acids, and which, consequently, tend to dissolve and to remove any iron coloration which might otherwise exist.

Until they are reclaimed by artificial drainage the soils of the Portsmouth series are rarely available for any utilization for the growing of the truck crops. This removal of surplus water may be accomplished through the establishment of open ditches which lead into local drainageways. Complete drainage, adequate for the successful production of intensively-tilled crops, can be accomplished only through the installation of rather complete tile under drainage.

The soils of the Portsmouth series in their natural state are usually covered with a thick growth of deciduous trees and a dense undergrowth of shrubs, vines and rushes. They are consequently expensive to clear and also to drain. This has resulted in the preferential development of other soils for general and special agriculture in the region of their occurrence. It is only where other more easily subdivided lands have been occupied that there is any great demand for these soils. In such areas as have been rather completely developed a considerable progress in the utilization of the Portsmouth series soils has been made. This is particularly the case in the more northern portions of the Atlantic Coastal Plains. Thus, in the vicinity of Norfolk, Va., and upon the Eastern Shore of Virginia and Maryland, as well as in Delaware, the Portsmouth sandy loam has come to be used extensively for the growing of certain truck crops. Among these the Irish potato takes first rank. The crop does not mature at as early a date as upon the associated Norfolk soils, but the yields secured are even greater than in the case of the Norfolk fine sandy loam, especially where the Portsmouth sandy loam has been well drained and fertilized. Yields of 50 to 60 barrels an acre are not unusual. The potatoes are sometimes of inferior quality, being liable to cook to a dark color and to be hollow. This arises from excess organic matter in the soil and from an excess of moisture during the last few days before digging. It is a fault which is reduced or eliminated by proper drainage and the use of the proper fertilizers, notably the sulphate of potash. This soil is, therefore, capable of more extended use as a medium-season potato soil.

Strawberries are extensively grown upon well-drained area of the Portsmouth sandy loam in the southern part of Delaware. The Gandy berry is the variety

which has been used most extensively. The type may be said to be better to the growing of a fine quality late berry, with heavy yields, than to the production of an early berry, which depends for its value upon early marketing. It is not uncommon for experienced berry growers to secure a crop giving a net income of \$200 per acre from the Portsmouth sandy loam, while this is frequently exceeded under the most favorable conditions.

The Portsmouth sandy loam has not been used to any extent for other truck and small-fruit crops, but it is certain that cabbage and lettuce may be successfully grown upon it where the market demands justify the production of a rather late crop. It should be available for the growing of fall crops of these vegetables in all of the more northern localities where it occurs.

It is probable that not 10 per cent. of the total area of Portsmouth soils has been reclaimed and used for any agricultural purpose. The amount used for truck production is so insignificant as not to permit of any numerical estimate. The usable area of the soils of this series is therefore very great, and the crops which may be grown depend rather upon the adequacy of drainage than upon any other factor aside from transportation facilities.

It is difficult to secure any definite estimate of the total area of land now devoted to the production of winter and early spring vegetables in the Atlantic coast region. This arises from the fact that the crops are grown in rapid succession upon the same land, and the same acre may bear a crop of winter lettuce, a spring crop of radishes, a summer crop of cucumbers or melons and another fall crop of lettuce. This multiple cropping of the land gives rise to a report of many more acres of the various crops than there are acres of land devoted chiefly to trucking. Another difficulty in making a just estimate of the lands so used lies in the fact that the areas are annually expanded or restricted to a very considerable degree through climatic accidents, particularly those of precipitation. If the planting or transplanting season from the early spring crops happens to be either excessively wet or excessively dry, the acreage in any one locality may be seriously reduced for that year, and general farm crops may be used to occupy the trucking lands. In a succeeding year favorable climatic conditions and a heavy market demand may give rise to much more extensive planting. It is therefore practically impossible to give other than very general estimates of acreage, and these may be stated only for the longest established and most uniformly stable trucking districts.

It is probable that approximately 1500 acres of land are devoted to truck and market-garden crops in the vicinity of Savannah, Ga. The chief acreage is devoted to early Irish potatoes. Snap beans and garden peas are also grown. Strawberries are produced chiefly for the local market. Some onions are grown, while sweet potatoes and melons are produced for local consumption. The soils suited to trucking and market gardening exist to the extent of 90,000 acres in Chatham county alone, and the facilities for transportation to market include both rail and boat transportation. It may be said that there is an excellent opportunity for the development of this class of agriculture, not only in that county, but also in other nearby counties of Eastern Georgia.

Around Beaufort, S. C., a thriving trucking business has been built up during the last 10 years. The soils and climate are well suited to this industry, and the progressive truckers of the region have improved upon natural conditions by

a rather general use of overhead irrigation systems. Lettuce is the chief crop grown. Beets, radishes, peas, beans and early potatoes are also raised. Possibly 6000 acres of land are now occupied for trucking purposes in the Beaufort district. Less than 5 per cent. of the available land has yet been utilized. Transportation facilities are fairly good.

The Charleston (S. C.) trucking district is one of the older localities, and it has established a well-deserved reputation for the growing of early spring cabbage and of cabbage plants for both fall and spring planting at more southern and more northern cabbage-growing points. Millions of cabbage plants are annually shipped from the Charleston trucking district to all of the Eastern States. It is estimated that an acreage in excess of 20,000 acres is annually devoted to truck crops upon the mainland and the sea islands around Charleston. The largest acreage is given to Irish potatoes; the next and nearly equal acreage is occupied by cabbages; cucumbers, beans, peas and sweet potatoes also occupy acreages ranging from 500 to 2500 each. Asparagus is harvested from nearly 1000 acres of land. The total value of the crops harvested has been estimated at \$3,700,000 by the Charleston Chamber of Commerce. This is in excess of \$150 per acre for all classes of vegetables and for all conditions of crops, from the best to those which were practically failures.

The opportunity for the extension of trucking acreage around Charleston is good. The soil survey of a restricted area, made in the vicinity of the city in 1905, shows that there are more than 100,000 acres of Norfolk fine sand and Norfolk fine sandy loam within the area of the survey. The area included only a part of Charleston county. It is thus easy to estimate that the present trucking area of this district could be doubled if only the most accessible and best suited lands were used.

Trucking has only recently been established as an important industry in the other seacoast counties of the State, yet Georgetown county shows over 400 acres of strawberries alone in the census year. Horry county grows approximately 2500 acres of strawberries each year, and Columbus county, immediately across the line in North Carolina, produces berries from a considerably larger acreage. Some other truck crops are also grown in all of these counties. Yet less than 1 per cent. of the farm-land area of the general region is used for truck production. It is almost literally true to estimate that, so far as land area is concerned, the undeveloped trucking lands of these coast counties of North Carolina and South Carolina number hundreds of thousands of acres.

The trucking industry around Wilmington, N. C., has been established since 1875, but the chief growth of the area did not commence until 10 years later. The Wilmington district is especially noted for its bed and field lettuce crops. The former are grown under canvas cover to prevent their injury by the mild winter frosts. The lettuce matures in early March. The field crop matures a month to six weeks later. From a half-acre of bed lettuce one grower harvested lettuce to the value of \$1756, or at a rate in excess of \$3500 per acre, in the spring of 1912. Numerous crops of field lettuce have yielded at the rate of \$1200 per acre when climatic and market conditions were both favorable. The field lettuce does not command so high a price, and the cash returns are correspondingly less, although the yields may be as large or larger.

Early Irish potatoes are an important



crop in this district, and the spring crop is harvested in time for the production of a forage or cotton crop during the summer season. The yields from the Norfolk fine sandy loam range from 40 to 65 barrels per acre. In one instance a progressive trucker combines winter and spring trucking with the production of summer forage crops for the feeding of a fine herd of dairy cattle. All but a portion of the grain ration is raised on the farm, and a trucking business is combined with good dairy farming, to the financial benefit of both. The maintenance of the crop-producing power of that land is assured.

A variety of other truck crops are grown in small acreages, and it is estimated that 6000 to 7000 acres of land are occupied for truck and fruit crops. Soil surveys in the district have shown the existence of 40,000 acres of available land for trucking in New Hanover county alone, while several times that amount of such soils exists in the nearby counties of North Carolina.

Trucking has been entered into as a specialized form of farming at numerous other points in the State, particularly near Newbern. Some of the northeastern counties of the State are now developing trucking lands. Yet throughout eastern North Carolina it may be said that there are 100 acres of good trucking soil undeveloped for every acre that has yet been utilized.

The Norfolk (Va.) trucking area is probably the best known as well as the oldest trucking district of the Atlantic coastal region. It is estimated that nearly 35,000 acres of land are devoted to truck crops in this district, which comprises parts of Princess Anne, Norfolk, Nansemond and Isle of Wight counties in Virginia. The gross returns from this business exceed \$8,000,000 each year.

The early Irish potatoes are the chief crop in acreage and value. The value of this crop usually exceeds \$2,000,000. Strawberries are next in importance, giving an annual return in the vicinity of \$1,000,000. Kale and spinach, grown as winter crops, are harvested to a value of nearly \$1,000,000 each year. Cabbage, peas and beans constitute the other more important crops, although cucumbers, radishes, beets, melons and sweet potatoes are grown on a considerable acreage.

It is probable that the available land supply for trucking purposes has been more nearly utilized in the Norfolk district than in any of the other trucking regions of the Atlantic coast region. Yet there exists in the northern portion of the counties named an area of the Portsmouth and Norfolk series in excess of 110,000 acres, and in the vicinity of the port of Norfolk not less than 250,000 acres of these peculiarly truck-soil types. The extension of the trucking industry in the district is more dependent upon the furnishing of adequate drainage and added local transportation facilities than upon available soil acreage.

In the absence of detailed soil surveys of the counties of Eastern Virginia and Southern Delaware, it is not possible to give a detailed statement of the unused but available trucking lands of the Virginia-Maryland-Delaware peninsula. Yet it is known that not one acre in fifty available for vegetables and small-fruit production is yet utilized for growing these crops. The soils are well adapted to trucking, and the climate is fairly favorable, while the transportation facilities are excellent, and both the time and distance of the haul to the great city markets are small.

While it is still impossible to give an accurate and detailed statement of the acreages of land suited to the production

of winter and spring vegetables in the Atlantic coast region, it may be stated positively that the areas now utilized for such purposes constitute only a fraction of 1 per cent. of the total land area which may ultimately be made available.

The first requirement for the development of these lands will be a market demand which shall justify the increased production, through paying a price for the product commensurate with the expenditures and risks undertaken by the producer. This may be attained through the natural increase in the consuming population and, to a marked degree, through the extension of the markets to hundreds of thousands of city dwellers who never taste the fresh vegetable products at the periods of the year when these crops are placed upon the market. A reduction in city price is essential to secure this latter extension of the business. This constitutes one of the greatest problems of food distribution remaining to be solved.

Added transportation facilities will probably be furnished as rapidly as a stable increase in production is assured. This has been the history of the development of the trucking business for the last 10 years. Extension of transportation lines into new territory will accompany the general development of the territory.

Extensive community and private drainage works must be undertaken before some of the best soils for trucking are rendered available in this section. The level savannah lands, the pocosons and the swamps imperatively require drainage. The more elevated uplands will frequently be benefited by more complete drainage, and many of the tidal swamps, occurring along the streams and at the estuarine mouths of the larger rivers, may be reclaimed, ultimately, for the production of concentrated forms of human food.

It may be said that capital for development and human labor for the working of the lands are the chief local problems attendant upon the wide extension of food production in the general region. There is land enough and climate sufficiently favorable to return the vegetable and fruit supplies required by many times the present population of the country. Lack of suitable lands is eliminated for many generations, and further development awaits upon the solution of economic problems rather than upon the discovery of suitable soils.

#### FOR IMPROVEMENT BONDS.

**Bids for \$1,200,000 to Be Received at Houston.**

[Special Cor. Manufacturers Record.]

Houston, Tex., September 20.

Sealed bids for \$1,200,000 worth of improvement bonds will be opened here October 6. With the proceeds of these bonds Houston proposes to spend \$800,000 in street paving and \$400,000 in the construction of four or five concrete bridges. Funds from the general revenue were used in the construction of the main street viaduct, under the administration of Mayor Rice, and the cost of the San Jacinto street bridge, now under construction, is provided for by funds already in hand. These and the new bridges contemplated in the bond issue are of similar type, reinforced concrete, and will be commodious and enduring accessories to the commercial facilities of Houston.

The \$800,000 for paving purposes will be supplementary to the expenditures now being made by the city and by owners of property abutting on the streets, and when this and other work mapped out has been completed the physical condition of Houston should be first class.

"Our city is in prosperous condition,"

said Mayor Ben Campbell in a discussion of the situation, "and with the expenditure of the funds covered by the bond issue all immediate needs will be provided for. Thenceforth the city revenues should be sufficient for all future requirements, providing a sinking fund, interest, etc., as well as taking care of all necessary public improvements. There ought never to be another bond issue required."

"We have a great, big city here, full of energy and vim, and we will be sharers in the general prosperity which the whole country is enjoying and will doubtless continue to enjoy. With such crops as are being raised by Texas and the country generally, there is no encouragement to the man who is looking for a let-up and expecting stagnation."

"Here in Houston we are going to keep on growing and expanding. All we need here is water transportation to supplement our railroads. We are the greatest railroad center in the Southwest, and one of the greatest in the country, and the energy of these people will be equal to providing the water transportation facilities that we need to completely fill in and round out the requirements of a great commercial and industrial center."

"When we contemplate what has been done at Hamburg, at Rotterdam, at Manchester and other places in Europe, we perceive what a simple task we have here to make Houston a real, a great seaport. In addition to the developments under way and which will be continued in the main ship channel from the turning basin to the Gulf, we are going ahead with the improvement of Buffalo bayou from Main street to the turning basin, some four miles in length. A contract has just been let for dredging to an eight-foot depth and a width of 40 feet at the bottom. And this is just a starter. Later it will be 30 feet deep and 75 feet at the bottom from Main street to the turning basin. From there to the sea the intention is, as you know, to provide a ship channel for ocean-going vessels of the heaviest draft. The present 25-foot depth will be increased to 35 or more, as may be required to make Houston one of the great seaports of the United States." ALBERT PHENIX.

#### Core "Rope" for Foundries.

The Lynchburg (Va.) Foundry Co. will establish at Anniston, Ala., a plant to manufacture "rope" for cores in pipe foundries. It has plans for constructing a steel-concrete building and installing machinery to make excelsior for core "rope" from wood of the old field pines abundant in the vicinity of Anniston. This will be a new process, as heretofore this product has been made from hay. It is stated that pine timber three to eight inches in diameter will be utilized, and thus a hitherto waste material will have a market value.

**Cement Roads and Pavements.** By E. S. Hanson. Publisher, The Cement Era Publishing Co., Chicago.

This volume is designed to stimulate the use of cement as the material for improved highways, to meet the demands of high-speed vehicles with tires covering a broad band of road. It deals with cement as a road material, with the details of the practice in concrete road construction, with facts about roads and streets upon which concrete has been used, with reinforced concrete pavements, with concrete in connection with other materials, with the theory and practice of joints, with the tests of concrete as roadway material, and with bridges and culverts. In appendices are presented specifications for roads and pavements of the National Association of Cement Users and local specifications.

## GOOD ROADS

### WEEK'S HIGHWAY RECORD.

#### Progress in Southern Road and Street Improvement.

[Further details of highway undertakings and bond issues mentioned below are given under the headings Construction Department and New Securities, published elsewhere in this issue.]

#### Bonds Voted.

Bonifay, Fla.—Holmes county voted \$40,000 bonds to construct roads.

McBee, S. C.—Alligator township of Chesterfield county voted \$40,000 bonds to improve roads.

Mexia, Tex.—City voted \$20,000 bonds to pave streets and sidewalks in business district.

Valdosta, Ga.—City voted \$35,000 bonds to pave streets.

Yazoo City, Miss.—Yazoo county will issue \$77,500 road bonds.

#### Bonds to Be Voted.

Alice, Tex.—Jim Wells county votes October 25 on \$125,000 bonds for roads, etc.

Clearwater, Fla.—City will vote on \$18,000 bonds for street paving.

Covington, Ky.—Kenton county will vote on \$100,000 bonds to improve roads.

Kingsville, Tex.—City votes September 27 on \$81,000 bonds for road improvements, etc.

Rosenberg, Tex.—City votes October 6 on \$12,500 bonds to improve streets.

Tavares, Fla.—Lake county will vote on \$500,000 bonds to improve roads.

#### Contracts Awarded.

Baltimore, Md.—City awarded \$50,973.50 paving contract.

Baltimore, Md.—City awarded contract for 5000 square yards of sheet asphalt paving with five and six-inch concrete base.

Crystal City, Tex.—City awarded contract to construct three blocks concrete sidewalks and crossings for business district.

Dallas, Tex.—City awarded contract for street resurfacing to cost about \$7000.

Louisville, Ky.—Jefferson county awarded \$8974 contract for road construction.

Scottsboro, Ala.—W. S. Keller, State Highway Engineer, awarded contract to construct portion of State-aid road; cost \$8000.

#### Contracts to Be Awarded.

Belton, Tex.—Bell county receives bids until September 24 to construct 55 miles of road in Precinct No. 1.

Fort Worth, Tex.—City will replace about eight miles of gutters; cost \$6000 to \$7000.

Fort Worth, Tex.—City will resurface portion of Jennings Ave.; cost \$10,000.

Jacksonville, Fla.—Duval county invites bids for brick paving of five and one-half miles.

Jonesboro, Tenn.—Town Council appropriated \$5000 to macadamize streets.

Louisville, Ky.—City will pave certain streets with asphalt; estimated cost \$23,000.

Opelousas, La.—City invites bids for 12 blocks street paving and several miles sidewalks; \$100,000 available for street paving.

Selma, Ala.—Southern Railway will pave around freight terminals; cost \$7500.

St. Andrews, Fla.—City receives bids until October 28 for constructing three miles of shell road, etc.

St. Louis, Mo.—Board Public Improvements opens bids October 7 for street improvements to cost \$57,743.

Waycross, Ga.—City will pave Gil-

more street with brick; width 32 feet; concrete curbing; cost \$30,000.

### AMERICAN ROAD CONGRESS.

#### Large Attendance Expected at the Gathering in Detroit.

J. E. Pennybacker, secretary of the American Highway Association, has reached Detroit in preparation for the American Road Congress, to be held in that city September 29-October 4, under the auspices of his association.

"At a conservative estimate," said Mr. Pennybacker, "I should give the attendance at the coming Road Congress as 5,000. It will be the first great gathering of the good-road workers of the entire United States and also of Canada, and with but one single exception every State that has a State highway department will be represented by its State highway commissioner. The one exception will be the State of Connecticut, which will be represented by a deputy highway commissioner. Secretary David F. Houston of the Department of Agriculture will speak for the United States Government. Secretary Houston has the public roads office under his direction. Premier Borden of Canada has promised to send down a member of the cabinet of Canada to remain at the congress throughout the entire week.

"There are 100,000 members in the organization participating in this congress, but, of course, in some instances these members are also delegates appointed by States, counties, cities or commercial organizations, but all of the 100,000 members, and every one a good-roads worker, has received an invitation to attend.

"There will be 100 manufacturers of road materials and of road implements exhibiting, and each exhibit will take five people at least, making 500 in all, and the Governors, State officers and members of the Congress and Senate who are delegates ex-officio will make 200 more.

"It will thus be seen that nearly or quite 150,000 men of the United States and Canada have received official designation as delegates to the congress, and I therefore again say that my estimate of 5,000 attendance is small."

#### More Brick Roads for Florida.

At a meeting last week at Orlando of taxpayers from all parts of Orange county, the County Commissioners and members of the Orlando Board of Trade, it was unanimously agreed to ask for an election on a proposition to issue \$600,000 of bonds, \$500,000 for brick roads and \$100,000 for clay roads or other equally hard substance. The plan is for the main arteries, where traffic is heaviest, to be laid in vitrified brick, and for the laterals to be of clay. The County Commissioners were asked to accompany the call for bond election with the detailed statement of the estimated cost per mile of road and of the location of the roads to be hard-surfaced.

#### Discussing Bonds for Roads.

With reference to a recent report that a mass-meeting had been held there to urge an issue of bonds for good roads, President S. W. Fletcher of the Board of Trade, Blacksburg, Va., writes that it is not yet decided whether a bond issue shall be made for the purpose. It was the sense of the citizens at the meeting that an election for a bond issue should be called, but the supervisors have not yet taken action. It is hoped, however, that they will authorize a bond issue of \$100,000 for macadamizing the main roads in Blacksburg district of Montgomery county.

## RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

### TO SPEND \$15,000,000 A YEAR.

#### That Is the Plan of the Baltimore & Ohio Announced by President Willard.

At the second staff meeting of officers of the Baltimore & Ohio Railroad Co. and affiliated lines, held at Deer Park, Md., this week, President Daniel Willard stated that since the last meeting, held several years ago, shortly after he became president of the road, it has spent approximately \$100,000,000 for improvements and betterments, and he further stated that the management hopes to continue this program of upbuilding at the rate of \$15,000,000 yearly expenditure for the next five years, with the understanding that larger expenditures may be made if necessary.

The \$100,000,000 that have been expended went into the building of new track where line was revised, reduction of grades, construction of new tunnels, building of stations, purchases of equipment in the way of thousands of freight cars and hundreds of locomotives and passenger cars. The result of this is that the operating capacity of the property has been much enlarged not only as to equipment, but as to the size of trains which can now be hauled over the line. The apportionment of this money was about as follows: \$40,000,000 for the improvement of the track and roadbed, on which work about \$10,000,000 more is being spent, and \$47,000,000 for new equipment, station improvements, etc.

Referring to the increase of wages, President Willard said that during the last three years increases have been made so that today the payroll is approximately \$5,000,000 more than it was then, although the number of employees is about the same. Moreover, this figure does not take into consideration the demands of conductors and other trainmen now being arbitrated. Taxes have also increased. Last year they jumped about \$750,000, and this year they are expected to increase \$1,000,000. Thus there will be an increase of \$10,000,000 in expenses.

An interesting remark was made by Mr. Willard about the policy of the company with reference to dividends and interest. He said that this policy is not to raise the dividend rate, but to return in betterments to the property any increase over the present rate. These betterments will be accomplished by putting in more heavy rails, improved ballasting, station improvements, etc. Thus the stock of the company stands for an investment of 100 cents on the dollar.

To meet the requirements of railroads generally in the future, President Willard said that it is hoped by them that an increase of rates will be granted as the result of the application to the Interstate Commerce Commission to make an advance of 5 per cent. in the existing freight tariffs.

At the second day's meeting an interesting announcement was made of the fact that on the day before there were loaded on the lines of the Baltimore & Ohio Railroad 11,348 cars, this being a record for any one day in its history.

President Willard's remarks upon the betterments to the property were well supplemented by the address of F. L. Stuart, chief engineer, who described, in the way of an imaginary trip over the system, various improvements which have been made and which are being completed,

this starting at Chicago and taking in the double-track work on that division, the signal system, the Lake terminals at Ohio ports on Lake Erie, the lines between there and Pittsburgh, and then the work between that point and Baltimore and Philadelphia. It may be mentioned that just now the company is pushing construction on a very important piece of line revision known as the Magnolia cut-off, on the Cumberland Division.

### BIG SOUTHERN RAILWAY LOAN.

#### Blanket Mortgage Bond Issue Proposed for Double-Tracking and Other Work.

It is announced in New York that the Southern Railway Co. is considering plans for a large issue of bonds secured by a blanket mortgage to take care of its needs for an indefinite period and to provide, among other things, for continuing its double-tracking work, which is already well advanced, with much of the second track in operation. The total amount of the proposed issue is not stated, but a hint of what it may reach is given in the remark that the present total mortgage bonded and secured debt of the company is very nearly \$265,000,000. It is further said that the new bonds, which are not to be marketed for several months, will not have a fixed rate of interest for the entire issue, but that the interest on any amount of the total offered for sale at any time will be set at such a figure to best meet conditions prevailing in the bond market at that time.

In connection with this announcement it is stated that the Southern Railway has outstanding less than \$61,350,000 of its 4 per cent. development and general mortgage bonds, the total authorized issue of which is \$200,000,000, and in the present condition of the money market these bonds are quoted at from 15 to 20 points below their face value. The company also has outstanding about \$61,000,000 of its first consolidated mortgage 5 per cent. bonds, the total authorized issue of which is \$120,000,000, it having sold recently about \$2,000,000. It is expected that none of the proposed new bonds will be offered for sale until nearly the end of this year or in the early part of 1914.

It is observed in connection with this contemplated issue by the Southern Railway that the New York Central system, the Burlington system and the Great Northern have each adopted the plan of putting all their bonded obligations under one large mortgage, and the Chicago, Milwaukee and St. Paul Railway is proposing to do the same thing.

### Dallas Southwestern Chartered.

The Dallas Southwestern Traction Co., capital \$500,000, has been chartered in Texas for the purpose of either building or acquiring and operating interurban railways to connect Dallas and Glen Rose, Tex., about 75 miles, with a branch from Eagle Ford to Irving, Tex., about five miles. The motive power will be either electricity, gas, gasoline, denatured alcohol, naphtha or other modern material. It is proposed to conduct passenger, freight and express business and to build union depots and office buildings. Electric light and power service may also be conducted generally.

The incorporators and directors for the first year are E. P. Turner, Ben B. Cain, John T. Witt, E. L. Sargent, Sam P. Cochran, Cullen F. Thomas, Sam T. Morgan, J. J. Carter, P. B. Hunt, E. M. Gleason, C. A. Dunn, E. A. Conibear, all of Dallas; Joseph Edwards, W. B. McKnight of Mansfield; W. Poindexter, John L. Cleveland, D. Strickland of Cleburne; J. C. Smyth, B. C. Kelley, P. K.

Thompson of Venus; B. M. Sansom of Alvarado, Tex.

Mr. Turner, who is the chief promoter of the plan, is quoted as saying that he believes actual construction upon the entire proposition will begin by the first of January, and possibly before.

### Signals and Passing Tracks.

Extensive improvements on the Alabama Great Southern Railroad (Queen & Crescent Route), including the installation of electric automatic signals between Moundville and Livingston, Ala.; the construction of long passing tracks at Eutaw, Trussville, Montlake and High Point, Ala., and the renewal of three bridges as ballast deck trestles are announced by General Manager Horace Baker, Cincinnati, Ohio.

The completion of an automatic signal system between Moundville and Livingston will give the Alabama Great Southern a 123-mile stretch of track so protected from Woodstock to Meridian, Miss. The passing track at Montlake will be 5070 feet long, that at Trussville 4754 feet, that at High Point 3700 feet and that at Eutaw 2127 feet, each capable of holding the longest trains.

All of these improvements are being made to furnish additional facilities for handling current business and to provide for increased freight and passenger traffic which the management hopes to have with the continued prosperity of the territory served by the Alabama Great Southern and other lines of the Southern Railway system.

### Traffic Compels Greater Facilities.

To provide additional facilities for promptly handling the growing volume of package freight moving through the transfer at Spartanburg Junction, S. C., the Southern Railway is making a 275-foot extension to the present covered platform, which is 802 feet long, and is installing electric lights to serve the entire plant, thus making it possible to work double shifts as well as giving increased floor and track space.

Cotton factory products and other manufactures from the Carolinas, bound for the West, produce from Western North Carolina for the Southeast, and merchandise from the West for the Carolinas and other Southern States are handled in large quantities through the Spartanburg Junction Transfer, being there made into solid cars and dispatched on fast through trains to the principal points in the South and West. The increased facilities have been made necessary largely on account of the increased traffic in manufactured and agricultural products moving from Southern points.

Contract for the extension has been awarded to the Elliott Building Co. of Hickory, N. C.

### Central of Georgia Figures.

The report of the Central of Georgia Railway for its fiscal year ended June 30, 1913, shows total operating revenues, \$13,854,872.16; total operating expenses, \$10,324,964.46; net operating income, \$3,529,907.70. Freight revenue showed a decrease because of fewer cotton shipments on account of less crop, while passenger revenue displayed an increase.

There was spent during the year \$653,632 for additions and betterments. A timber-treating plant at Macon was finished at a cost of \$42,838.67. At Barnesville a new passenger station was erected, and combination passenger and freight stations were built at Felton, Junction City, Lafayette, Register, Sharpsboro and The Rock, Ga.; also at Bellwood and Sterretts, Ala. At Savannah the Wadley



street freight warehouse was extended. An extension was made to the telephone dispatching system, and there were other improvements made to the water supply for locomotives at various points. Equipment purchases included 17 locomotives and 126 freight cars.

#### \$500,000 of Bonds for Betterments.

A stockholders' meeting of the Maryland & Pennsylvania Railroad Co. is called for September 30 at Baltimore to act upon a proposed issue of \$500,000 of bonds for improvements. It is said that \$300,000 of them will be issued immediately. The company has for several years been improving its property, and is now perfecting a system of automatic signals for the line, which is single track. A recent rumor that it would abandon steam and adopt electric motive power is denied, but it has been expected that sooner or later some new form of motive power would be adopted. Several years ago a new motor car was tested upon the line, and it is believed that as soon as a wholly satisfactory substitute can be found for steam locomotives they will be abandoned. It may be remarked that J. Wilson Brown, president of the road, is also president of the Annapolis Short Line, which was several years ago converted from steam to electric motive power.

#### New Equipment, Rails, Etc.

Texas Midland Railroad has purchased 2 consolidation type freight locomotives.

Kansas City, Lawrence & Topeka Railway is reported in the market for cars.

San Antonio, Uvalde & Gulf Railway has purchased 4 locomotives, 8 passenger cars and 4 mail and baggage cars. The engines were built by the American Locomotive Co.

Charlotte (N. C.) Electric Railway Co. has put in service 8 new double-truck cars of the pay-as-you-enter type, built by the J. G. Brill Company, Philadelphia.

Public Belt Railroad of New Orleans has purchased and received from the Tennessee Coal, Iron & Railroad Co. \$32,000 worth of steel rails.

Louisville (Ky.) Railway Co. is completing 10 cars at its own shops. They will have center entrances and exits, and will be used for trailer service only. Others may be built.

#### Big Railroad Ferry Boats.

According to a report from West Palm Beach, Fla., the Florida East Coast Railway has awarded a contract for two large ferry boats to run between Key West and Havana conveying trains of railroad cars. Each will be able to carry 26 cars, and they will be substantially and specially constructed to stand the voyage across the Gulf. The distance is about 90 miles.

This is in accord with the plans of the railroad company when it built its extension to Key West, where extensive terminals are being provided for the handling of freight and passengers to and from Cuba.

#### Columbia Desires a Union Station.

The Chamber of Commerce at Columbia, S. C., has begun a movement looking to the construction of a union station there for the use of all railroads entering the city, and alleges that the present separate stations have become inadequate for handling the passenger traffic. A committee has been appointed on the subject as follows: Howard Caldwell, chairman; H. A. Taylor and F. J. Parham.

#### Baltimore & Ohio Statement.

The Baltimore & Ohio Railroad Co. has issued a statement of earnings and expenses, excluding outside operations, for

August and for the first two months of the new fiscal year. The statement for August shows operating revenue \$9,443,154, increase as compared with the same month of last year \$564,883; total operating expenses \$6,394,376, increase \$383,356; net operating revenue \$3,048,778, increase \$181,527. The statement for July and August combined shows operating revenue \$18,281,964, increase \$1,350,808; total operating expenses \$12,540,378, increase \$868,883; net operating revenue \$5,741,586, increase \$481,925. Outside operations, being estimated, will show a deficit for August of \$60,000. In August, 1912, the deficit was \$56,568.

#### Dallas Street Railway Improvements

Plans have been prepared by the Dallas (Tex.) Consolidated Electric Street Railway for the erection of new shops at Elm and Peak streets, the ground occupied being 180x150 feet. While the present machinery in the company's shops will be transferred to the new buildings after they are completed, it is also intended to purchase some additional equipment for the plant. The old shops are then to be used for storage or for barns. Fourteen switch tracks and one cross-over track will be laid into the property, which is immediately opposite the present shops. The company has just purchased 24 double-truck semi-convertible cars which it is expected to receive from St. Louis within a month. E. T. Moore, manager, has charge of the improvements.

#### Railroad Notes.

The steamship Aros Castle, from South African ports, has landed about 5000 tons of chrome ore at the Port Covington (Baltimore) piers of the Western Maryland Railway, and the material will be shipped west over the Western Maryland and its connections. This is the second ocean-going vessel to dock at the new pier of the road within a week.

The Western Maryland Railway Co. reports earnings for the month of July and comparisons with July, 1912, thus: Total operating revenue \$727,776.23, increase \$156,794.04; total operating expenses \$553,201.00, increase \$141,526.75; net operating revenue \$174,575.14, increase \$15,267.29.

#### Emphasizing Our Resources.

[Wilmington (N. C.) Star.]

The MANUFACTURERS RECORD has been an immense power in Southern development because it has specialized on the resources of the South. An intelligent study has been made of these resources, and there is not a Southern State that has not benefited from the knowledge applied to the subjects, from the effective emphasis laid upon Southern possibilities and adaptabilities, and from the comprehensive exploitation and publicity followed up in such an effectual way in that powerful medium that has been made of the MANUFACTURERS RECORD.

We do not think anybody can doubt the powerful influence that has been exerted by that great Southern publication on the wonderful development of the South. It has not only informed, but inspired, and it has set the pace for the press if it will follow the lead. In other words, what the MANUFACTURERS RECORD has done for the South, the newspapers can do for their States and localities. They could not do better service than to emphasize the resources peculiar to their communities, counties and States. To a greater extent than ever, too, the press is doing that very thing, and it is impossible to do too much of it. No editor can better display his knowledge than to tell what he knows about the means of developing his part of the country.

## MINING

#### Kentucky Breaks Coal Record.

The production of coal in Kentucky established a new record in 1912 with a total production of 16,490,521 short tons, according to Edward W. Parker, coal statistician of the United States Geological Survey. This large output represented an increase of 2,440,818 tons over the figures for 1911, and of nearly 2,000,000 tons over the former maximum output of 1910. There was an even greater increase in value in 1912, namely, \$2,845,749 over the figures for 1911. The increased production in Kentucky was due chiefly to the new developments in the eastern part of the State, although the western counties participated largely in the gain.

Kentucky is the only one of the coal-producing States which has within its borders areas belonging to any two of the distinctly separate great coal fields. The eastern counties of the State are underlain by the coal beds of the great Appalachian Mountain system, extending entirely across the State in a northeast-southwest direction, while the southern limits of the central or eastern interior coal field are found in the more northern counties of the western part of the State. The total area underlain by coal in the eastern counties of Kentucky is estimated at 10,270 square miles, and the coal-bearing areas in the western part of the State are estimated to contain 6400 square miles. Up to the close of 1911 the larger part of the production of the State had been from the western district, but as a result of extensive developments in Harlan, Johnson, Letcher and Pike counties, the larger part of the coal production in 1912 was from the eastern part of the State. The Eastern Kentucky coals are mostly high-grade "gas" or "coking" coals, with some camel coal.

#### Black and Gray Marble.

The Virginia Marble & Stone Quarries Co., recently incorporated with \$100,000 capital, has organized with E. D. Davis of Harrisonburg, Va., as president. He writes to the MANUFACTURERS RECORD as follows:

"We own eight acres of land contiguous to Southern Railway, all of which is underlain with marble, a black and dark gray. We are developing both quarries, which are about 250 yards apart. Both quarries are equipped with steam hoisting powers and derricks. The black quarry is much more developed than the gray. The character and quality of both is first-class and the quantity is abundant. The black quarry is now developed down to well-defined ledges of marketable stock, and we have recently shipped three cars of dimension mill blocks. It is our intention to continue the development as rapidly as possible and to make our daily output as much as we can, but are unable to state at the present time how much. We are getting rid of all our by-product at good prices, for building and macadam and concrete purposes."

#### Tennessee Coal Output.

Activity in coal mining in Tennessee was well maintained in 1912, according to figures of E. W. Parker of the United States Geological Survey. In fact, the production shows an increase of some 40,000 tons in that year over 1911. The output for 1912 was 6,473,228 short tons, valued at \$7,379,903.

The coal measures of the Appalachian region cross the eastern part of Tennessee in a comparatively narrow belt, 50 to 70 miles wide, in a northeast-southwest

direction. The total area underlain by coal is about 4400 square miles, and the greater part of the area contains one or more beds of workable thickness and quality. All of the coals of Tennessee are bituminous, generally high grade, and some of them make a good quality of coke. Smithing coal is produced in the southern part of the field.

#### Big Creek Coal Co.

The Big Creek Coal Co., Louisville, has been incorporated with a capital stock of \$175,000 and will develop 4700 acres of coal land in Muhlenberg county, Kentucky. It proposes an installation for a daily mining capacity of 1000 tons of coal, and may lease a portion of its property to other operators. Organization has been effected with the following officers: President, D. W. Gatlin of Madisonville, Ky.; vice-president, H. E. Tuley; secretary-treasurer, Fred C. Bailey; both of Louisville.

## TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS RECORD. We shall be glad to have such material at all times, and also to have any general discussion relating to cotton matters.

#### Crystal Springs Cotton Mill.

The Crystal Springs Bleachery Co., Chickamauga, Ga., writes to the MANUFACTURERS RECORD as follows:

"Our cotton mill is progressing nicely. The brick work will be completed in about 15 days, and we hope to have the building completed ready for machinery December 1. This is a three-story building, 135x380 feet. Contractor on the brick, R. L. Westcott, Chattanooga, Tenn.; woodwork and general construction, Adams & Schneider of Chattanooga. We will have 20,160 spindles and 700 Stafford automatic looms equipped for weaving goods from 27 to 56 inches in width. Machinery purchased from the Howard & Bullough American Machine Co., Pawtucket, R. I., up to the spinning; spoolers from the Whitin Machine Works, Whitinsville, Mass.; slashers from Cohoes, N. Y.; warpers from the Saco Lowell Co., Lowell, Mass. This mill will be driven by electricity. The power is made from an Allis-Chalmers 1000-kilowatt generator; motors are also purchased from the Allis-Chalmers people. Architects of the building, Lockwood, Greene & Co. of Boston. We expect to employ 250 operatives; daily capacity of the mill, 50,000 yards of cloth."

#### Big Addition Contemplated.

The Revolution Cotton Mills, Greensboro, N. C., will, it is reported, build an additional plant to cost from \$1,250,000 to \$1,500,000. It is stated that plans and specifications are being prepared for new buildings, for the construction of which there will be required 2,000,000 bricks, of which 500,000 have been ordered, these buildings to be equipped with machinery to include 1200 looms. Referring to these reports, the company writes to the MANUFACTURERS RECORD as follows:

"We have nothing to give out for publication at present, as we have not determined upon anything."

This company is now capitalized at \$300,000, and its equipment is 31,000 ring spindles, 776 narrow looms, 100 cards, dyeing apparatus, bleaching machinery, finishing machinery, etc., driven by electric

power and employing 600 operatives. Bleached and unbleached cotton flannels and domets is the product.

#### Purchased Cox Mill.

Wellington, Sears & Co. of Boston have bid in the Cox Manufacturing Co. property at Anderson, S. C., for \$125,000. They wire the MANUFACTURERS RECORD as follows:

"When purchase is consummated Cox mill will be reorganized under a new corporation, enlarged and equipped with new machinery for the manufacture of cotton duck, especially single and double filling for tent, awning and converting trade."

This plant is equipped with 25,000 ring spindles, 400 looms, etc., driven by electric power.

#### The Cotton Movement.

In his report for September 19 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 19 days of the present season was \$55,697 bales, an increase over the same period last year of 145,723 bales. The exports were 434,204 bales, an increase of 146,609 bales. The takings were, by Northern spinners, 84,531 bales, an increase of 28,103 bales; by Southern spinners, 126,187 bales, an increase of 15,906 bales.

#### Cape Fear Cotton Mills.

The Cape Fear Cotton Mills of Fayetteville, N. C., has been incorporated with an authorized capital of \$100,000 by A. P. Rhyne of Mt. Holly, N. C.; A. R. McEachern, J. M. Butler, James A. Johnson, Walter D. Johnson and L. A. McGeachey of St. Pauls, N. C.

#### A \$100,000 Yarn Mill.

W. D. McNeill, Hotel Mixon, Ozark, Ala., and others will build a cotton mill, and he wires the MANUFACTURERS RECORD as follows:

"Cost, \$100,000; brick construction; 5000 spindles; 225 knitting yarns."

#### To Manufacture Cloth.

The Jackson Mills Co., Monroe, N. C., has been incorporated with \$125,000 authorized capital by W. C. Heath, J. R. English and R. A. Morrow.

#### Textile Notes.

The Cleveland (Tenn.) Woollen Mills plans to add 12 looms to present equipment of 78 looms.

The Wilson (N. C.) Cotton Mills Co. has increased capital from \$25,000 to \$49,000. It is now operating 6240 ring spindles, 21 cards, etc.

The Fidelity Manufacturing Co., Charlotte, N. C., will add 1000 spindles. It now has 10,000 ring spindles, 4000 twister spindles, 50 broad looms, etc.

The Panola Cotton Mills, Greenwood, S. C., will, it is reported, add 5000 spindles. This company now operates 10,000 spindles, 250 looms, 18 cards, etc., by electric power, its product being sheetings.

The Batesville (S. C.) Manufacturing Co. plans to establish a weaving department, and writes to the MANUFACTURERS RECORD: "As soon as plans are settled will write particulars; they are not yet definite." This company has 3000 ring spindles, 10 cards, etc., manufacturing yarns and ball thread.

The Holt-Granite Manufacturing Co., Haw River, N. C., proposes to add six revolving flat cards and 12 deliveries of drawings to operate all its spinning. It has 20,928 ring spindles, 688 narrow looms, 71 cards, dyeing equipment, finishing machinery, etc., for the production of ginghams, plaids, outing flannels, etc.

#### Building at Rock Hill.

Chamber of Commerce,  
Rock Hill, S. C., September 20.

#### Editor Manufacturers Record

At Rock Hill during the past year business houses to the value of \$100,000 were erected and occupied, while residences valued at at least \$125,000 have been erected, not including many erected by colored people. Fifty thousand dollars' worth of street paving has been done; an \$80,000 gas plant is just being completed; \$80,000 has been spent in constructing additions to the water-works system and putting in a 12-inch pipe line to the Catawba River five miles away, giving the city an adequate water supply for years to come. The work of erecting school buildings to cost \$75,000 is now under way, and some of the buildings practically completed. In addition to this, buildings and additions costing around \$225,000 have been completed at Winthrop College, State college for girls, located here. Ten stores have been occupied, the stock of the various concerns being worth approximately \$100,000.

The Chamber of Commerce of Greenville, S. C., is circulating an attractively illustrated pamphlet describing Greenville and its vicinity as an answer to the question-title of the pamphlet, "Want a Life While Making a Living?"

## MECHANICAL

#### Gasoline Street Railway Cars.

The street car shown in the accompanying illustration has been developed and built after several years of experiment and testing by Charles A. Carlson, mechanical engineer, 15 William street, New York. The Hendersonville car as shown has been operated for some time by the Hendersonville Traction Co. of Hendersonville, N. C., on a line two miles long, the cars being 30 feet in length and making an average of about 8 miles per gallon of gasoline used. The car will accommodate 45 passengers seated, and as many as 103 passengers have been carried up a 7 per cent. grade without difficulty. The

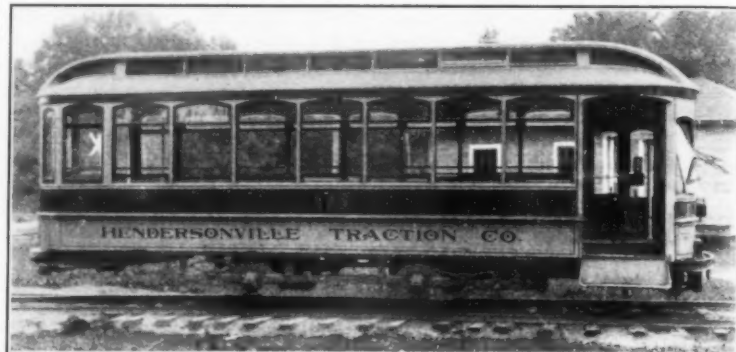
plan, and every feature of the car has been planned with the view to economy in operation and fuel consumption.

The latest report on the operation of the car shows that it ran 3200 miles during the month at a fuel expense of \$71.87 with gasoline at 19 cents per gallon; \$14.25 for oil at 30 cents per gallon, making an average cost of 2.8 cents per car mile for power.

It is believed that this car will aid in

is used for the high-pressure cylinder, by which oil is discharged directly upon the surface to be lubricated. For the low-pressure cylinder the oil is fed in with the steam. A gravity oiling system is installed for lubricating the bearings, and the oil is collected after use and passed through a filter, making it ready for re-using. A flywheel governor controlling the high-pressure valves is used.

In the tests of the engine, one indicated



CARLSON GASOLINE MOTOR RAILWAY CAR.

solving the problem of traction in small towns throughout the South and Southwest, owing to its simplicity and economy in operation.

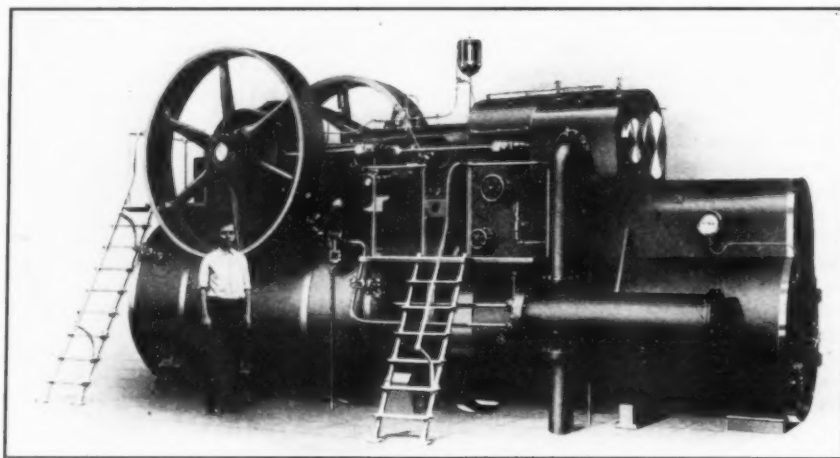
#### Self-Contained Steam-Power Plant.

The complete steam plant, with all its accessories, as shown in the accompanying illustration and called the Buckeyemobile, has been developed by the Buckeye Engine Co. of Salem, O., after over a year in designing and experimenting and months of testing out the new machine. It follows the wide practice in Europe in the making of the well-known Locomobile outfit. The unit consists of the boiler, with superheater, feed-water heater, boiler-feed pump, rotary air pump and condenser, together with the reciprocating engine, as shown.

The steam from the boiler, after passing through the steam dome and superheater, enters the high-pressure cylinder; it then passes through the reheater and low-pressure cylinder and is discharged

horse-power has been developed on from 1 to 1½ pounds of coal, depending upon the quality of the coal. An advantage of the Buckeyemobile is found in the small foundation required by the unit, thus saving in cost of building, ground space, foundations, etc., which are required for power plants in which boiler, engine, pump, etc., are not combined.

The Buckeyemobile is built in sizes from 75 to 600 horse-power, and has shown decided economy even in the small units. The fuel used may consist of steaming coal of the various grades, fuel oil, gas, or even refuse may be utilized by a proper adaptation of the furnace. Such a plant is suitable for conditions where an economical and reliable power plant is required, as for electric stations, pumping plants, factories, office buildings, irrigation plants, gas pumping stations, flour mills and other industrial plants. There are but few moving parts, and the nature of the various elements forming the units contributes to the lowest main-



BUCKEYEMOBILE STEAM POWER PLANT.

gasoline engine is located beneath the forward platform, and does not take up any space from the inside of the car. The motor is four-cylinder, directly opposed, and is so arranged in a removable power plant that it can be taken out of the front of the car and replaced by another in less than 30 minutes. This arrangement makes it possible to repair the motor without keeping the car out of service.

The car is handled by one man operating the motor and at the same time looking out for the passengers entering, collecting fares on the "pay-as-you-enter"

through the feed-water heater to the condenser. The boiler is internally fired, and in the 200-horse-power unit the boiler has only 9 square feet of grate surface, with 370 square feet of heating surface. The cylinders are 9½ and 19 inches by 18-inch stroke, with a speed of 200 R. P. M. The furnace and tubes can be easily removed for cleaning and inspection. Piston valves are used, taking steam in the center and exhausting at the ends. These valves, after considerable use with a high degree of superheat, showed no evidence of appreciable wear. Positive feed lubrication

and depreciation costs. These features include the removable corrugated furnace boiler, the plain continuous tubular superheater, the single piston valve engine, valveless vacuum pump, etc.

The Buckeyemobile is fully illustrated and described in Bulletin No. 10-B, issued by the company. Sectional drawings showing the details of construction and the movement of steam and the action of various parts, tables of dimensions and results of tests showing economy and reliability of this compact power plant are included.



# Construction Department

## TO OUR READERS!

In order to follow up properly the Construction Department items, please bear in mind the following statements:

### EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "it is reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

### HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be shown on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur.

### WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year. On all advertising contracts in the Manufacturers Record for three months or longer a subscription to the Daily Bulletin is included for the contract period.

### BRIDGES, CULVERTS, VIADUCTS

Ala., Birmingham.—Jefferson County Board of Revenue ordered construction of 4 concrete bridges on Bessemer Rd.

Ala., Blockton.—Birmingham, Selma & Pensacola R. R. Co., J. F. Johnston, owner, Tuscaloosa, Ala., will build few small bridges on proposed 45-mi. railroad Blockton to Selma.

Ala., Dadeville.—Tallapoosa County Commrs. contemplate constructing steel bridge across Tallapoosa River.

Ark., Corning.—Geo. A. Booser will construct bridge across Black River.

Ark., Fort Smith.—St. Louis & San Francisco R. R. V. K. Hendricks, Asst. Ch. Engr., Frisco Bldg., St. Louis, is assembling materials to renew bridge across Arkansas River; Mr. Hendricks wires Manufacturers Record: "Steel work now being received; will be erected by company forces." Unconfirmed report states cost will be \$500,000.

Ark., Lepanto.—Poinsett county will construct bridge across Little River. Address County Commrs., Harrisburg, Ark.

Fla., Pensacola.—Escambia county contemplates erection of \$100,000 bridge across Escambia River. (See Road and Street Work.)

Fla., St. Andrews.—City will construct 3 bridges, etc.; bids until Oct. 28; S. J. Gainer, Mayor. (See Road and Street Work and Machinery Wanted.)

La., Mooringsport.—Caddo Parish Police Jury will expend \$41,000 to erect bridge across Caddo Lake; 7 pony truss steel spans;

6 spans 79 ft. 4½ in. and 1 span 92 ft. c/c. end bearings; 92-ft. span, Waddell & Harrington vertical lift span providing vertical clearance of 55 ft. above high water; substructure, 8 piers, steel tubular piers, filled with concrete and resting on timber piles; 16-ft. clear roadway; bids until Oct. 9; J. T. Bullen, Parish Engr.; Waddell & Harrington, Consult. Engrs., 1012 Baltimore Ave., Kansas City, Mo.; lately noted. (See Machinery Wanted.)

La., New Orleans.—City let contract Midland Bridge Co., Kansas City, Mo., at \$42,000 to construct lift bridge across New Basin Canal at axis of Lake St.; W. J. Hardee, City Engr.

Md., Baltimore.—City let contract McClintic-Marshall Construction Co., Pittsburgh, Pa., at \$86,750 to build superstructure of bridge No. 2 across Gunpowder River, above Loch Raven; riveted steel truss highway structure; 3 spans, 297 ft. each; 2 girder approach spans, 27 ft. each. (Lately noted.)

N. C., Belhaven.—Beaufort County Commrs., Washington, N. C., let contract W. A. Blount at \$3200 to rebuild bridge destroyed by storm.

N. C., Mocksville.—Davie and Forsyth County Commrs. engaged J. N. Ambler, Winston-Salem, as engineer in charge of erecting iron bridge across Yadkin River connecting two counties; estimated cost \$25,000. (Lately noted.)

N. C., Newbern.—Craven County Commrs. will rebuild bridge connecting Newbern and Bridgeton almost totally destroyed by recent storm; length about 1 mi.

Tenn., Bristol.—Norfolk & Western Ry., J. E. Crawford, Act. Ch. Engr., Roanoke, Va., may construct bridge across tracks at Edmond St.

B. Cody, Prest. and J. H. Isherwood, Secy., will build 4 bridges on proposed 5-mi. railroad. (See Machinery Wanted.)

W. Va., Kingmont.—Baltimore & Ohio R. R., F. L. Stewart, Ch. Engr., Baltimore, Md., considering construction of bridge about 300 ft. long in connection with railroad to be built from Kingmont to Gaston Junction.

W. Va., Morgantown.—Monongalia county will construct bridge over Cheat River at Lees Ferry; two 300-ft. spans; steel superstructure; concrete or stone superstructure; concrete floor; Rob. D. Hennon, County Engr.

W. Va., Weston.—Lewis County Commrs. let contract Laten Bridge Co., York, Pa., at \$2900 to construct bridge across West Fork River at 4th St.; 2 concrete spans; each 52 ft. long, 28 ft. wide, including 18-ft. driveway and 5-ft. walk on either side.

### CANNING AND PACKING PLANTS

Ark., Pine Bluff.—Arkansas Packing Co. will expend \$45,000 to install machinery in packing plant to cost \$75,000; date of machinery bids not set. (Contract for plant previously noted let Galbraith & Royce.)

Fla., Zephyrhills.—Syrup, J. F. Stebbins Mfg. Co. will erect mill-construction 25x75-ft. \$800 building; install sugar-cane mill, 5 roller; 3 evaporating pans; cost about \$3000; daily capacity 500 gals.

Fla., Valrico.—J. B. S. Holmes, Enos P. Robinson and others promoting establishment of packing plant; at first to have capacity 2 cars daily; cost \$5000 to \$7000.

Fla., Valrico.—Fugazzi Fruit Co. will establish packing plant; daily capacity, 5 cars fruit.

## PROPOSAL ADVERTISEMENTS

IN THIS ISSUE ARE

PUBLISHED ON PAGES 74 and 75.

In order to secure best bids from leading engineers, contractors and investment houses, the proposal advertising columns of the Manufacturers Record are invaluable.

Rate 20 cents per line per issue.

When Proposal Advertisements cannot be sent by mail in time to secure insertion before date for opening bids, please wire advertisement copy by Night Letter.

Proposal Advertising must reach us not later than 9 A. M. Wednesday.

Tex., Alice.—Jim Wells county will vote Oct. 25 on \$125,000 bonds for bridges and roads; W. R. Perkins, County Judge.

Va., Ashburn.—Loudoun county will erect 2 bridges; bids received at Leesburg, Va., Oct. 1; reinforced concrete structure, 66 ft. long, over Beaver Dam, 3 mi. from Ashburn, 3 20-ft., 20-in. spans; 88 ft. long, 4 Std., 20-ft. reinforced concrete spans, over Broad Run, 6 mi. from Peonian Springs; both concrete substructure; P. St. J. Wilson, State Highway Commr., Richmond. (See Machinery Wanted.)

Va., Elmont.—Hanover county will build bridge over Stony Creek, 1½ mi. from Elmont; bids received Oct. 1; reinforced concrete, 20 20-ft. spans; length of structure, 44 ft.; 12-ft. roadway; plain concrete substructure; P. St. J. Wilson, State Highway Commr., Richmond. (See Machinery Wanted.)

Va., Quantico.—W. G. Sneed, Chmn. Stafford County Commrs., Stafford, Va., advises date of receiving bids to construct 30-ft. span steel bridge across Chappawamsic Creek on Telegraph Rd., between two counties, is extended to Sept. 30. (See Machinery Wanted.)

Va., Monterey.—Highland county will construct 2 steel bridges; bid until Oct. 7 at clerk's office; P. St. J. Wilson, State Highway Commr., Richmond. (See Machinery Wanted.)

W. Va., Ceredo.—Town voted \$4500 bonds for building steel viaduct bridge across Jordan's Creek; J. O. Marcum, Mayor. (Lately noted.)

W. Va., Catawba.—Buckhannon & Northern R. R. Co., S. D. Brady, Ch. Engr., Morgantown, W. Va., will construct bridge across Monongahela River at Catawba; reported cost \$300,000.

W. Va., Elkins.—Limestone R. R. Co., R.

Miss., Brookhaven.—Pleides Co., Aurora, Ill., contemplates establishing cannery; daily capacity, 5000 cans. (See Miscellaneous Factory.)

Va., Gate City.—McConnell & Drake, J. T. McConnell, Prest., Secy. and Treas., Warner Drake, Mgr., will erect one-story 30x75-ft. building and install equipment costing \$1500; product, first year, 3000 cases.

### CLAYWORKING PLANTS

W. Va., Grafton.—Tile—Columbia Tile Co. considering rebuilding of plant recently reported burned at loss of \$100,000.

### COAL MINES AND COKE OVENS

Ky., Bremen.—Big Creek Coal Co., 410 Inter-Southern Bldg., Louisville, Ky., capital stock \$175,000, inceptd.; will develop 4700 acres in Muhlenberg county; D. W. Gatlin, Prest., Madisonville; Henry E. Tuley, V.-P., Louisville; Fred C. Bailey, Secy.-Treas., Louisville; I. Bailey, Gen. Mgr., will superintend construction and equipment; mine capacity 1000 tons daily; reported to lease part of property.

Ky., Hazard.—Kentucky Block Coal Co. organized by J. B. Allen, J. A. Sloan, H. E. Bullock and others; will develop coal mines 4 mi. from Hazard.

Ky., Madisonville.—Beulah Coal Co. inceptd. by J. T. Edwards, B. D. Franklin and Wm. Lynch.

Tenn., Knoxville.—Catrons Creek Coal Co. will increase capital from \$40,000 to \$75,000.

Tenn., Nashville.—Clifton Creek Coal Co. increased capital stock from \$40,000 to \$100,000.

W. Va., Bluefield.—City Fuel Co., capital stock \$5000, inceptd. by J. P. Coffer, Thos. O. J. Wilson, J. W. Shirley and others.

W. Va., Keeferton.—Milburn Coal Co., Charleston, W. Va., organized with P. M.

McClanahan, Prest. and Treas.; W. W. Keefe, V.-P.; Chas. S. Sargeant, Secy.; H. D. Morton, Mgr.; developing 5900 acres; closed machinery contracts. (Previously noted to install plant with initial capacity of 2500 tons daily 18 mi. from main line of Chesapeake & Ohio Ry., on Paint Creek Div.; cost from \$200,000 to \$300,000.)

W. Va., Williamson.—Poca Creek Investment Co., capital stock \$10,000, inceptd. by Z. R. Lewis, W. F. Kirby, J. G. Neal and others; lease and develop coal lands, etc.

### COTTON COMPRESSES AND GINS

Tex., Cuero.—Nursery Gin Co., capital stock \$500, inceptd. by L. S. Wilborns, Jack Kyle and W. A. Stephens.

Tex., Harmon, R. F. D. from Honey Grove, Farmers' Gin Co., capital stock \$5000, incorporated by U. G. Byrnes, E. L. Prescott and J. R. Lynn.

Tex., Velasco.—Velasco Power Co. purchased machinery for 2-70 saw gin; erect 20x12-ft. and 20x28-ft. buildings to replace burned structures; frame and corrugated iron. (Lately noted.)

### COTTONSEED-OIL MILLS

Miss., Deeson.—Deeson Oil Mills, capital \$75,000, inceptd. by J. D. Brooks, Frank Hayson and W. P. Marcus; established plant.

Miss., Vicksburg.—Caldwell Cotton Oil Co., J. T. Caldwell, Prest., states company will not build mills this season. (Lately noted inceptd., \$10,000 capital.)

### DRAINAGE SYSTEMS

Fla., Rodman.—Rodman Lumber Co., H. S. Cummings, Prest., will construct 12 mi. drainage ditches, requiring removal 55,000 cu. yds. earth; bids invited. (See Machinery Wanted.)

Fla., Oviedo.—Black Hammond Drainage District Commrs. let contracts to construct drainage system.

Ga., Baxley.—J. V. Phillips, State Drainage Engr., Savannah, Ga., will make surveys preparatory to submitting report on construction of system to drain 50,000 acres swamp land.

Miss., Crenshaw.—H. W. Crenshaw advises that Yazoo-Coldwater Drainage Dist., comprising about 325,000 acres, will have surveys ready within next 3 months for adoption of plans for proposed construction to divert floods of Coldwater River. (Previously noted.)

Mo., Maryville.—Maryville Dist. Drainage Board authorized issuance of \$30,000 bonds to complete drainage work probably early next spring; H. H. McClung, Pickering, Mo., in charge.

Mo., Shelbyville.—Valley Drainage Dist. Commrs. will extend drainage canal for about 6 mi. along Salt River in Shelby county; \$38,500 bonds available.

N. C., Mooresville.—Byers Creek Drainage Dist. Commrs. let contract L. O. White, Statesville, to dredge Byers Creek.

Tenn., Lexington.—Henderson county contemplates organizing drainage district for reclamation of 6000 acres on Beech River; W. F. Appleby, County Judge.

### ELECTRIC PLANTS

Ala., Roanoke.—City, W. Y. Chewning, Mayor, will expend about \$17,000 on electric plant; develop about 300 H. P.; will ask bids; Engr., J. B. McCrary Co., Atlanta, Ga. (Lately noted.)

Fla., Auburndale.—Elmer E. Cline, Prest. Bd. of Trade, states electric plant will be established. Address The Mayor. (See Water-Works.)

Fla., High Springs.—City voted \$35,000 bonds to acquire electric-light and water plants. Address The Mayor.

Ky., Lebanon Junction.—Lebanon Junction Light & Power Co., capital stock \$4500, inceptd. by C. McL. Stinger, R. M. Hocker and G. W. Bache.

Md., Cumberland.—City contemplates constructing electric light and power plant; Commr. Water and Electric Light instructed to employ advisory electrical engineer.

Tex., Brownwood.—City considering construction of electric-light plant. Address The Mayor.

Tex., Mission.—City contemplates arranging for construction of electric-light plant. Address The Mayor.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

La., Lafayette.—City will improve electric-light system; cost \$7000 to \$10,000; Water and Light Com. will let contract on commission basis; J. O. Herpin, Supt.

Md., Easton.—Wm. Dammehauer, 1117 Lincoln St., Wilmington, Del., is reported interested in construction of electric-light plant; franchise recently reported granted; capacity 275 H. P., operated by steam power.

Mo., Sedalia.—City Light & Traction Co. will erect addition to Broadway power-house; install 400 H. P. boiler.

Okla., Bokhoma.—Wilson Lumber Co., W. M. Waterman, Gen. Mgr., will install lighting plant. (See Lumber Mfg.)

Okla., Burlington.—Ancient Free and Accepted Masons will construct electric-light and power system for Orphans' Home; pole line system to support 4-wire 2-phase 60-cycle electrical system; power to be transmitted from generating station at El Reno, 4½ mi.

Tex., Galveston.—Galveston-Houston Electric Co. holds meeting Oct. 6 to authorize increase of \$1,000,000 in both common and preferred stock; contemplates various improvements and extensions during coming year, principally increase of power facilities, purchase of new equipment, erection of car barns and extensions of track; Stone & Webster Engineering Corp., Engr., 147 Milk St., Boston, Mass., wires Manufacturers Record: "Improvements will extend over considerable period; details have not yet been worked out."

Tex., Houston.—Galveston-Houston Electric Co. will consider increasing stock \$2,000,000; plans various improvements and extensions during coming year. (See Tex., Galveston.)

Tex., Mineral Wells.—Mineral Wells Electric Co. acquired properties of Mineral Wells Electric System; make some changes; no new construction. (Lately noted inceptd., capital \$65,000, by Percy Jones, W. E. Kaufman and D. T. Bomar.)

Va., Charlottesville.—Redland Land Co. proposes to construct electric-light plant.

Va., Lynchburg.—City contemplates constructing electric-light system to cost \$138,000. Address The Mayor.

## FERTILIZER FACTORIES

Ala., Dothan.—Houston Guano Co. will rebuild plant lately burned.

## FLOUR, FEED AND MEAL MILLS

Ala., Cullman.—Tingle & Handy will build corn mill.

Fla., Lake Butler.—E. M. Rivers will install equipment to refine pearl grits and bolted meal; capacity 15 bu. per hour. (Lately noted.)

Ky., Glendale.—Hoover & Ashlock let contract Claud Vannmeter, Elizabethtown, Ky., to build midget mill.

## FOUNDRY AND MACHINE PLANTS

Fla., Fellsmere.—Plumbing, etc.—Chas. Roberts will erect shop building; engage in metal work, plumbing, etc.

Fla., Palatka.—Machine Shop.—Stanton Foundry & Machine Co. is erecting 2-story 30x60 ft. addition to machine works; will equip with new lathes, planers, etc., for steel, iron, brass and copper.

Fla., Tampa.—Blacksmith Shop.—Sunlight Mfg. & Garage Co., Eugene G. Mugge, Mgr., succeeds Sunlight Mfg. Co.; will, within 30 days, erect blacksmith shop.

Md., Havre de Grace.—Cross Ties.—English Steel Cross Tie Co., capital stock \$10,000, inceptd. by Wm. R. Gorrell, A. Freeborn Brown and Thos. J. Brown.

Mo., St. Louis.—Iron Work, etc.—Bourne-Fuller Steel Co., capital stock \$25,000, inceptd. by Chas. H. Fenner, Cornelius J. Sullivan and John C. Barrows.

N. C., West Raleigh.—Machine Shop, etc.—Agricultural and Mechanical College let contract S. S. Towler, Rocky Mount, N. C., at \$46,000 to erect shop building lately described.

Tex., Austin.—Farm Implements.—C. B. Cummings, St. Louis, Mo., contemplates establishing plant.

Va., Norfolk.—Freight Car.—Boyer Expedition Co., capital \$20,000, inceptd.; E. B. Hodges, Prest.; John C. Boumon, Jr., Secy.; A. M. Guy, Treas.

W. Va., Wheeling.—Boiler-house.—Ohio Valley General Hospital Co. will erect \$60,000 boiler-house; R. R. Kitchen Co., Contr., Pittsburgh, Pa.

## GAS AND OIL ENTERPRISES

Ga., LaGrange.—Gas Plant.—City let contract J. N. Hazlehurst, Candler Bldg., Atlanta, to build \$40,000 gas plant; main building of concrete; capacity of gas tank 50,000 cu. ft.; 9 mi. pipe; Mr. Hazlehurst also prepared plans. (Lately noted.)

Ky., Boyd.—Beaver Valley Gas Co., capital stock \$30,000, inceptd. by G. H. Dimick and G. H. Dimick, Jr., Huntington, W. Va.; Geo. B. Martin, Catlettsburg, Ky., and others.

La., DeQuincy.—Little River Oil Co. inceptd. to drill for oil in Calcasieu parish; Geo. S. Lyons, Prest.; Claude A. Pray, V. P.; D. D. Herford, Secy.-Treas.

La., Jennings.—Pan-American Oil Co., capital \$250,000; G. B. Ziegler, Prest.; J. H. Holden, V. P.; N. S. Whisenant, Secy.-Treas.

La., New Orleans.—Vespy Co., capital stock \$30,000, inceptd. by L. N. Ford, Warren R. Reed and S. M. Thompson.

La., Shreveport.—S. H. & H. Drilling Co. has been inceptd.

La., Shreveport.—San Antonio-Dallas Gas & Oil Co. let contract Devore & Eastham at about \$50,000 to drill oil wells in Caddo field.

Md., Baltimore.—Consolidated Gas, Electric Light & Power Co., Lexington and Liberty Sts., will erect addition to plant on Constitution St.; 3 stories; brick; concrete foundation; iron and steel work; composition roof; steam heat; electric light; concrete floors; bids opened Sept. 23; Geo. B. Beadenkopf, company's Engr., prepared plans.

Mo., Joplin.—Oil Refinery.—Wilhoit Oil Refining Co., E. M. Wilhoit, Prest., Springfield, Mo., will improve refinery.

Okla., Bartlesville.—Texas Oil Co., capital \$10,000, inceptd. by John W. Herman, E. and H. O. Stark.

Okla., Enid.—Garfield Oil Corp., capital stock \$55,000, inceptd. by I. J. Hartman, Isaac Regier, J. B. Horney and others.

Okla., Enid.—Badger Oil Co., capital stock \$2500, inceptd. by F. A. Hudson, B. M. Athey and John P. Cook.

Okla., McAlester.—Kendrick Oil & Gas Co., capital stock \$35,000, inceptd. by Sherman M. Goss, Martin Plankett, B. E. Tabler, J. M. Putnam and S. F. Fitzgerald.

Okla., Muskogee.—Celestine Oil Co. will open drilling bids Oct. 1; Geo. W. Sterling and J. H. Winemiller, Engrs. in charge; lately noted inceptd., \$25,000 capital. (See Machinery Wanted.)

Okla., Muskogee.—Twilight Oil & Gas Co., capital stock \$50,000, inceptd. by Charles H. Walton, George B. Monroe and J. E. Walton.

Okla., Muskogee.—Muskogee Oil Co., capital stock \$20,000, incorporated by V. V. Morgan, Grant Brown, J. E. Liggert, W. V. White and F. B. Bende.

Okla., Oklahoma City.—Crutcho Oil & Gas Co., capital stock \$11,250, inceptd. by W. L. Alexander, Ed S. Vaught and Jasper Sipes.

Okla., Oklahoma City.—Gasoline.—Golden Gasoline Co., capital \$30,000, inceptd. by H. E. Kelly, E. A. Butt, W. B. Tate and others.

Okla., Oklahoma City.—Sussex Oil & Gas Co., capital \$10,000, inceptd. by W. T. Gassett, Homer Law and A. J. McCarthy.

Okla., Oklahoma City.—Jude Bett Oil & Gas Co., capital \$5000, inceptd. by W. W. Juden, C. F. Gustasen, W. D. Wright and others.

Okla., Sapulpa.—Georgia Oil Co., capital stock \$35,000, inceptd. by E. A. Bockoven and Earl Bockoven of Oklahoma City, L. A. Pursell, Alva, Okla., and others.

Okla., Tulsa.—Arkansas River Oil & Gas Co., capital stock \$15,000, inceptd. by O. H. Harper and B. E. Williams, Buffalo, Okla.; J. C. Elliott of Pauls Valley, Okla., and others.

Okla., Tulsa.—White Star Oil Co., capital \$20,000, inceptd. by B. T. Haines, H. B. Martin, A. F. Moss and others.

Tex., Austin.—Gas Plant.—Austin Gas Light Co. increased capital stock from \$400,000 to \$450,000; will improve gas plant and distributing system.

Tex., Beaumont.—Beaumont Co-operative Oil Land Development Co., capital \$200,000, inceptd.; owns 1000 acres in Hardin and will develop under co-operative plan; H. C. Beaumont, Prest.; M. J. Gregory, Treas.; H. D. Beaumont, Secy.

Tex., Brownwood.—Chas. F. Hart & Son petitioned city for franchise to supply natural gas; pipe from wells 12 mi. from Brownwood.

Tex., Hillsboro.—Hillsboro Oil & Gas Development Co., capital stock \$10,000, inceptd. by Harry Beck, Webster McEvoy and Herman Eastland.

Tex., Seymour.—Seymour Oil & Gas Co., capital stock \$6500, inceptd. by G. S. Plants, M. H. Gibbs and George Knight.

Va., Ashland.—Gas Plant.—Ashland Gas, Sewer & Water Co. inceptd.; D. B. Cox, Prest. (See Water-works.)

W. Va., Logan.—Pioneer Gas & Electric Co., capital stock \$5000, inceptd. by C. W. Ratke, C. W. Polling, W. E. Lanham and others.

## ICE AND COLD-STORAGE PLANTS

Fla., Auburndale.—Elmer E. Cline, Prest., Board of Trade, advises ice plant will be established.

Fla., Miami.—Gentison Bros. Co. will erect cold-storage plant and wholesale house; 2 stories; 25x125 ft.; concrete; divide into 4 compartments and install ammonia pump; cost \$10,000; plans prepared; bids invited.

Ky., Somerset.—Somerset Ice Co. contemplates installing additional cold-storage and refrigerating plant. (See Machinery Wanted.)

S. C., Greenville.—A. L. Mills and J. H. Williams interested in proposed erection of cold-storage plant. (See Machinery Wanted.)

Tex., Texarkana.—R. P. Martin will establish ice plant.

## IRRIGATION SYSTEMS

Tex., Live Oak County.—San Antonio Engineering & Construction Co., San Antonio, made preliminary surveys of arid lands in Live Oak county, comprising 60,000 to 70,000 acres; proposes to construct dirt dam across Nueces River, to be 2 mi. long and 41 ft. high in bed of river; also concrete spillway to dispose of excess water during rainy season; reported that reservoir formed by dam will have sufficient capacity to water 80,000 acres; water conveyed by gravity canal about 65 mi. long; known as Live Oak County Irrigation Project until company organizes; N. G. Simpson in active charge of preliminary work and Noah Allen is general counsel, both of San Antonio.

Tex., Ballinger.—J. W. Powell, Mayor, wires Manufacturers Record: "Mr. Stanley, Engr., Bronte, Tex., figuring out irrigation scheme on Colorado River near Ballinger; cost \$1,500,000; irrigate 100,000 acres." Report states dam to be 2700 ft. long, 75 ft. high and 160 ft. wide at base; back up water 21 mi.

## LAND DEVELOPMENTS

Ala., Tuscaloosa.—City voted \$25,000 bonds to purchase and improve park; 15 acres; cost of improvements, \$15,000; S. H. Sprott, Commr. (Lately noted.)

Fla., Clearwater.—City will vote on \$2000 bonds to improve Island Park and other parks. Address The Mayor.

Fla., Jacksonville.—Clay & Putnam Land Co., capital stock \$140,000, inceptd.; C. H. Barnes, Prest., Jacksonville; Jas. Fuller, V. P., Durham, N. C.; H. C. S. Satterfield, Secy.-Treas., Goldsboro, N. C.

Fla., Jacksonville.—Interurban Development Co., F. M. Williams, Prest., Tampa, Fla., will develop 300 acres as suburb; pave streets, construct water-works, etc.

Fla., Miami.—Flick & Co., Chicago, Ill., purchased 3 sections of land in Dade county and will plant in grapefruit; divide into 192 10-acre tracts and colonize.

La., Monroe.—Planters' Land Co. has been inceptd.

La., New Orleans.—Louisiana National Amusement Park Assn. purchased 12 blocks on St. Claude St. and will improve as park; expend \$75,000 for erecting buildings and landscaping grounds.

La., Vinton.—Vinton Townsite Co. has been inceptd.

Miss., Paris.—Southern Plantations Corp. purchased for \$25,000 (through Jos. N. Holt) following properties: Billy Boy plantation, 4000 acres; Eagle's Nest estate, 1700 acres; Pendleton plantation, 1400 acres; including growing crops, machinery, cattle, etc.; report states these properties are to be transferred to Belgian syndicate for development.

Mo., Kansas City.—Maple Park Land Co., capital stock \$30,000, inceptd. by Wm. R. Munger, A. H. McDonald and F. R. Adcock.

Mo., St. Louis.—Sherwood Forest Realty Co. will develop Webster Groves as subdivision; 80 acres; construct sewer, electric-light, gas and water systems and pave streets and sidewalks; let contract C. M. Berry Construction Co., St. Louis.

Mo., Neosho.—Langley Land & Development Co., capital \$40,000, inceptd. by S. P.

Langley, J. D. Mears, E. M. Smith and others.

N. C., Asheville.—Forest Hill Co., J. M. Chiles, Secy., is developing 40-acre tract along Asheville-Biltmore trolley line as residential section; building sidewalks, streets, water-works and sewer lines.

N. C., Blowing Rock.—Blowing Rock Development Co., capital \$125,000, inceptd. by J. W. Connor, Jr., Concord; J. D. Elliott, Hickory; L. L. Jenkins, Asheville, and others. (See Hotels.)

N. C., Charlotte.—Southern Fruit Co., capital \$50,000, inceptd. by Theo. Lambry, Cyril G. Smith and C. W. Tillett, Jr.

N. C., Mount Olive.—East Coast Realty Co., capital \$10,000, inceptd. by L. B. Dall and others.

Tenn., Knoxville.—Peerless Farm Co., capital \$2000, inceptd. by K. E. Steinmetz, A. E. Mitchell, C. E. Kirby and others.

Tenn., Nashville.—Mayberry Realty Co., capital stock \$100,000, inceptd. by H. H. Mayberry, R. A. Bailey, Jr., John A. Pitts and others.

Tex., Dallas.—Dallas Suburban Realty Co. organized with E. M. Hackett Prest., M. Coerver V. P., L. P. Gamble Secy.-Treas.; 200 acres; present development not contemplated. (Lately noted inceptd., \$60,000 capital stock.)

Tex., Hillsboro.—Hillsboro Development Co. organized with G. J. Carter, Prest.; Geo. F. Sturgis, Secy.-Treas.; develop 83½ acres; subdivision; L. Eastland, engineer in charge. (Lately noted inceptd., \$4500 capital stock.)

Va., Norfolk.—Eastern Carolina Home & Farm Assn., capital \$100,000, inceptd.; Prest., Clifford I. Millard, Prest. and Gen. Mgr. of John L. Roper Lumber Co.; Secy., M. S. Hawkins; Mr. Millard writes to Manufacturers Record: "Prefer not to make any announcement."

Va., Richmond.—South Richmond & Chesterfield Ry. Co. (John C. Roberts and others) proposes to build pleasure park at Falling Creek, construct concrete dam to form lake, install amusement devices, etc.

Va., Roanoke.—Waverly Place Corporation, capital \$75,000, inceptd.; H. R. Fairfax, Prest., McComas, W. Va.; S. R. Mason, Secy., Roanoke.

Va., Suffolk.—J. M. Butler & Sons have had surveys made of 200-acre tract; divide into 10 and 20-acre lots; construct 60-ft. street through property.

Va., Suffolk.—George Washington Colonization Co. purchased 3814 acres farming and timbered lands; stated will settle by colony of German farmers.

W. Va., Charleston.—Capital City Land Co., capital stock \$10,000, inceptd. by Ira G. Sayre, A. B. Koontz, F. R. Hurlbutt and others.

## LUMBER MANUFACTURING

Ala., Knoxville.—Black Warrior Lumber Co., D. C. Henterlitter, Gen. Mgr., will change mill from circular to band saw; may decide to make it both band and circular plant.

Ala., Short Leaf.—W. G. Mitchell Lumber Co. will increase capacity of plant and erect new mill; owns 20,000,000 ft. stumpage and contemplates increasing holdings.

Ark., Altheimer.—L. Willey, Pine Bluff, Ark., purchased 2587 acres, partly timbered and partly in cultivation.

Fla., New Smyrna.—New Smyrna Lumber Co. organized with \$25,000 capital stock.

Fla., Palatka.—Wilson Cypress Co. is erecting planing mill; sheet iron; 92x210 ft.; engine-room 20x36 ft.

Ga., Albany.—Allison Lumber Co., capital \$10,000, inceptd. by A. W. Allison, R. H. Paul, A. G. Paul and A. G. Withee.

La., Boyce.—Dunham & Robinson Lumber Co. secured tract of hardwood stumpage and will build mill for development.

La., Campt.—Whaley Lumber Co., W. F. Johnson, Prest., Coushatta, La., purchased pine timber tract; will remove mill machinery to Campt and erect plant.

La., Ruston.—Castor Lumber Co. has been inceptd.

La., Winnfield.—Mansfield Hardwood Lumber Co., Shreveport, will build hardwood mill of 30,000 ft. capacity, single-band type.

La., Winnsboro.—Franklin Lumber Co. organized; will build mill and develop timber on 400 acres on Sicily Island in Ouachita River; lumber to be barged to Jonesville, La.; mill of single-band type; machinery purchased.

Miss., Jackson.—Jackson Hardwood Lumber Co., capital \$10,000, inceptd. by E. D. Brewer, Chas. Baskett and others.



N. C., Scotts Hill.—Keystone Lumber Co., capital \$50,000, inceptd. by W. A. Marshall and Joseph Lytle, Monongahela, Pa.; James L. Grable, Washington, Pa., and others.

Okla., Bokhoma.—Wilson Lumber Co., W. M. Waterman, Gen. Mgr., will erect plant to replace burned mill; boiler-house, 45x60 ft.; sheds, 60x60 ft.; sawmill, 40x180 ft.; kilns, 6x106 ft.; planer, 70x80 ft.; mill construction; cost \$100,000; equipment; mill and planer machinery, water-works, lighting plant and kilns; daily capacity, 85,000 ft. lumber. (Lately noted.)

S. C., Charleston.—Barshay Lumber Co., capital \$50,000, inceptd. by Marshall Barshay and M. R. Rivers.

Tenn., Knoxville.—Devil's Den Lumber Co., capital \$100,000, inceptd. by F. S. Chapman, R. S. Young, W. J. Donaldson and others.

Tex., Diboll.—Teets Lumber Co. purchased 800 acres timber land and will develop; erect 2-story mill building, 35x110 ft.; J. D. Wyck, Engr., Box 907, Knoxville, Tenn. (See Machinery Wanted.)

Tex., Jelumco.—McClurg-Daniel Lumber Co., capital stock \$30,000, inceptd. by C. R. McClurg, David McClurg and W. S. Daniel.

Tex., Rusk.—Powell Land & Lumber Co., capital stock \$44,000, inceptd. by C. B. Powell, J. M. Simmons and Jim Ford.

Tex., Terry.—Terry Lumber Co. inceptd. with C. E. Slade, Pres.; Geo. E. Holland, V.-P.; D. T. Haskell Secy.; main offices at Orange.

Tex., Wallis.—Wallis Lumber Co. increased capital stock from \$10,000 to \$25,000.

Va., Sussex.—Sussex Lumber Co., capital \$50,000, inceptd. by J. J. Mitchell, Pres.; Sussex; J. E. Griffin, V.-P.; Yale, Va.; B. F. Mitchell, Secy., Stony Creek, Va.

W. Va., Keyser.—Keyser Lumber Co., capital stock \$50,000, inceptd. by Luther Stafford, H. L. Arnold, M. C. Winters and others.

W. Va., Romney.—Lost Creek Lumber Co., capital stock \$150,000, inceptd. by W. B. Cornwell, W. W. McLaine, Wm. Traphell and others.

### METAL-WORKING PLANTS

Ark., Texarkana.—Steel Ceiling, etc.—Tennison Bros. will erect addition to plant; brick and concrete; install machinery to mfr. steel ceiling and metal sash in addition to products now manufactured; cost \$75,000.

### MINING

Ky., Hopkinsville.—Stone.—Premier Bowling Green Stone Co., capital stock \$10,000, inceptd. by C. A. Groth and Jas. L. Langley, Joliet, Ill., to develop stone quarries.

La., Baton Rouge.—Sand and Gravel.—Contractors' Sand, Gravel & Supply Co. organized with T. P. Singletary, Pres.; A. B. Singletary, V.-P.; W. D. Thomas, Secy.; L. U. Babin, Treas.; develop sand and gravel about 10 mi. along Amite River; lately noted. (See Machinery Wanted.)

Mo., Chitwood.—Lead and Zinc.—L. A. Kain and others, Web City, will develop 20-acre mining lease.

Mo., Greenfield.—Lead and Zinc.—John A. Hall Mining Co., capital \$12,000, inceptd. by John A. Hall, C. W. Montgomery, H. C. Divine and others.

Mo., Webb City.—Lead and Zinc.—Athletic Mining Co. will build concentrating plant to replace mill lately reported burned at loss of \$40,000.

N. C., Mortimer.—Granite.—Wilson George Rock Co. purchased machinery for developing 245-acre granite deposits; J. W. Pope, Pres.; W. S. Burfield, Secy. (Lately noted as Wilson Rock Crusher & Building Material Co., inceptd. with \$15,000 capital.)

Okla., Hattonville (not a P. O.).—Lead and Zinc.—J. M. Short, Joplin, Mo., leased 40 acres mining land on Tar Creek and will develop; will build concentrating plant.

Tenn., Knoxville.—Lead.—M. E. Thornton, Hickory, N. C., wires Manufacturers Record: "It is proposed to organize \$200,000 company to equip development for 5000-ton daily output of ore; 251 acres, on Tennessee River bank 3½ mi. below Knoxville; Chicago parties who have new process for extracting and separating metals from ores may join in enterprise; when company is organized it will be bonded for \$2,000,000 or \$5,000,000 as may be decided and investigation warrants."

Tenn., Ripley.—Gravel.—Walter L. Kirkman, Malvern, Ark., purchased sand bar (878 acres) on Mississippi River; contemplates organizing company for development.

Va., Harrisonburg.—Marble.—Virginia Marble & Stone Quarries Co., E. D. Davis, Pres., is developing 8 acres black and grey marble properties; equipment supplied;

daily capacity not determined. (Lately noted inceptd., \$100,000 capital.)

Va., Norfolk.—Bayer Exploitation Corporation, capital \$30,000 chartered; E. R. Hodges, Pres.; J. C. Bauman, Jr., Secy.

### MISCELLANEOUS CONSTRUCTION

Ala., Moundville.—Signal System.—Alabama Great Southern R. R., C. Dougherty, Chief Engr., Cincinnati, O., will install electric block signals between Moundville and Livingston.

Ark., Helena.—Levee.—Helena Improvement Dist., Maj. C. H. Purvis, Ch. Engr., let contract Harmon & Thomas Construction Co., St. Louis, Mo., to repair and reconstruct 5½ mi. levee from Crowleys Ridge to north line Cotton Belt Dist.; includes 1200 ft. of recent subsidence of levee; district issued \$400,000 bonds and Government appropriate \$100,000. (Lately noted.)

Fla., Clearwater.—Pier.—City will vote on \$10,000 bonds to construct pier at foot Cleveland St. Address The Mayor.

Fla., Palatka.—Dock Improvements.—Hart Steamer Line planning dock improvements in connection with Clyde Steamship Co.

Fla., Palatka.—Dock.—City will construct dock with truck and track, adjoining county bridge across St. John's River, for use of small craft of farmers and orange growers. Address The Mayor.

La., New Orleans.—Levee.—Mississippi Levee Com., C. O. Sherrill, Capt., Engrs., let contract Dameron-White Company, Baton Rouge, to construct 625,000 cu. yds. earthwork in Lower Tensas Levee Dist. (Call for bids lately noted.)

La., New Orleans.—Levee.—State Engrs., 213 New Orleans Court Bldg., let following contracts for levee construction: W. M. Rushing, Bayou Current, La., Merriek levee, Pointe Coupee parish, new levee, 20,000 cu. yds.; Lower Coast Construction Co., Pointe-a-la-Hache, La., Harlem levee, Plaquemines parish, search ditch and enlargement, 35,000 cu. yds.; H. A. Schoenberger, Venice levee, Plaquemines parish, 17,000 cu. yds. earthwork and 6000 lin. ft. wooden revetment. (Call for bids lately noted.)

La., New Orleans.—Levee.—State Engrs., 213 New Orleans Court Bldg., let following contracts: J. M. Sullivan, 2304 Laraperouse St., New Orleans, Bombon levee, Pontchartrain Dist.; Bourg & Serpass, Arabi, La., protection to Southport levee, Pontchartrain Dist.; H. Hedberg & Co., 1813 Pensacola Ave., Dallas, Tex., Spur dike in Red River, Atchafalaya and Bayou Boeuf Dist. and St. Joseph's Church levee; Geo. R. Lacy, Arkansas City, Ark., Gaines Landing levee; W. M. Rushing, Bayou Current, La., Ben Ruth levee; Clinton Sayes, Vlek, La., Schoolhouse South levee; Chas. J. Martin, 1450 Allen Ave., Shreveport, Iron Mountain crossing to Lynson levee. (Call for bids lately noted.)

La., Shreveport.—Earthwork.—Caddo Levee Board receives bids until Oct. 1 for earthwork, Bennett's Pass, excavation about 40,000 cu. yds. (See Machinery Wanted.)

Md., Baltimore.—Fallsway.—Bd. of Estimates rejected plans to continue Fallsway from Baltimore to Pratt St.; H. K. McCay, City Engr. (Lately noted.)

Tex., Aransas Pass.—Jetty.—Government asks bids until Oct. 22 for jetty work. C. S. Riche, Lieut.-Col., Engrs. (See Machinery Wanted.)

Tex., Galveston.—Canal.—Col. C. S. Riche, U. S. Engr., U. S. Engr. Office, Trust Co. Bldg., Galveston, received report from Col. Wm. T. Russell, Chief of Engrs., U. S. A., Washington, D. C., recommending construction of channel 5 ft. deep and 40 ft. in bottom width from Galveston to Sabine River, completing inland waterway from Mississippi River to Rio Grande; length 47½ mi.; about 3,800,000 cu. yds. excavation; estimated cost, \$475,000.

Va., Irvington.—Wharf.—Irvington Wharf Corp., capital \$5000, chartered; W. McDonald Lee, Pres.; Irvington; J. F. Gouldman, Jr., Secy.-Treas., Fredericksburg, Va.

Va., Newport News.—Canal.—City contemplates dredging drainage canal from small boat harbor to northern branch of Back River; depth about 16 ft.; Jefferson B. Sinclair, Engr., made surveys and estimates cost at \$64,000; excavation about 800,000 cu. ft.; Floyd A. Hudgins, City Clerk.

### MISCELLANEOUS ENTERPRISES

Ala., Birmingham.—Contracting.—Smith-McDuffie Contracting Co., capital \$3000, inceptd.; J. F. McDuffie, Pres.; R. M. Smith, Secy.-Treas.

Ala., Tuscaloosa.—Inclinator.—City voted \$9000 bonds to purchase and erect inclinator. Address City Commrs. (Lately noted.)

Ark., Russellville.—Publishing.—Educator Publishing Co., capital \$10,000, inceptd.; Sam W. Vandivert, Pres.; Jos. N. Paine, Secy.; Eva Vandivert, Treas.

Ark., Little Rock.—Publishing.—Western Methodist Publishing Co., capital \$18,000, inceptd.; L. F. Blankenship, Pres.; A. C. Millar, V.-P.; Frank Barrett, Secy.; W. B. Harp, Treas.

Fla., Gary.—Abattoir.—Hendry Bros. will build abattoir; 18x36 ft.; 2 stories; let contract Tudnell & Bates, Tampa.

Fla., Pensacola.—Crematory.—City contracted with Nye Odorless Crematory Co., Macon, Ga., to install 1-unit experimental garbage crematory; capacity, 8 to 10 tons daily; cost \$2500.

Fla., Pensacola.—Inclinator.—City contemplates installing one or more inclinator plants; bids until Sept. 15; A. Greenhut, Mayor.

Ga., Augusta.—Barges.—T. S. Gray, Albert S. Hatch and others are promoting organization of company with \$100,000 capital to operate barges.

Ga., Macon.—Construction.—Griffin-Edwards Construction Co., capital stock \$10,000, inceptd. by W. D. Griffin and B. H. Edwards.

La., New Orleans.—Plumbing.—E. Jacob Plumbing Co., capital stock \$10,000, inceptd.; E. Elmore Jacob, Pres.-Mgr.; Lionel A. Jacob, V.-P. and Secy.; Ernest H. Jacob, Treas.

La., Thibodaux.—Grain Elevator.—Percy-Lobdell Co. will award contract to W. H. Wenholz Construction Co., Springfield, Ill., to erect elevator; cost \$2000. (Lately noted.)

N. C., Charlotte.—Plumbing.—Acme Plumbing Co., capital \$25,000, inceptd. by B. W. Smith and J. L. McCready; continue established enterprise.

Okla., Checotah.—Steam Laundry.—Checotah Water, Light & Ice Co. let contract for machinery for laundry; erecting 30x50-ft. building; cost \$4000; day labor. (Lately noted.)

Okla., Durant.—Grain Elevator.—Durant Grain & Elevator Co., capital \$10,000, incorporated by W. F. Pendleton, E. W. Stewart, Jas. R. McKinney and others.

S. C., Charleston.—Creosoting.—Carolina Creosoting Co., capital stock \$20,000, inceptd. by E. H. Rawls and B. A. Hogood. (Chamber of Commerce later stated as interested in establishing plant.)

S. C., Kershaw.—Live-stock.—Clyburn Live Stock Co., capital \$10,000, inceptd.; G. W. Welsh, Pres.-Treas.; C. F. Clyburn, V.-P. and Secy.

S. C., Wellford.—Live-stock.—Wellford Live Stock Co., capital stock \$10,000, inceptd.; S. L. Moore, Pres.; H. P. McMakin, V.-P.; J. R. Jackson, Secy.; J. R. Smock, Treas.

Tenn., Memphis.—Printing.—Memphis Press Co., capital \$10,000, inceptd. by J. A. Keefe, L. H. Leech, A. G. Field and others.

Tex., San Antonio.—Printing.—Nowinky Texasuskie, capital stock \$3000, inceptd. by John Kromolicki, Thomas J. Moczygemba, John Jachtly and others.

W. Va., Cedar Grove.—Contracting.—Kana-wha Building & Supply Co., capital stock \$5000, inceptd. by F. L. Mechie, J. Wentz Bannister, Harold P. Tompkins and others.

### MISCELLANEOUS FACTORIES

Ala., Anniston.—Excelsior.—Lynchburg Foundry Co. will erect steel and concrete building; install machinery to manufacture excelsior for core "ropes" for foundry use; raw material—wood of old field pines.

Ala., Birmingham.—Packing.—Garlock Packing Co., Palmyra, N. Y., will remove New Orleans branch packing factory to Birmingham; wires Manufacturers Record: "Birmingham installment \$25,000; office remains New Orleans."

Ala., Birmingham.—Shoes.—Caruthers-Irwin Co. will install shoe manufacturing equipment in New Downey Bldg.; 7000 sq. ft. floor space; initial daily capacity 1000 pairs shoes; wires Manufacturers Record: "Not ready to make details public."

Ala., Geneva.—Turpentine, etc.—Glindele Turpentine & Rosin Co., care of American Wood Waste Co., 32 N. Clark St., Chicago, will establish plant for manufacturing turpentine, etc.; first plant fully contracted for. (Lately noted inceptd., \$20,000 capital, by Geo. A. Glindele and others.)

Ala., Geneva.—Wood Waste Products, etc.—American Wood Waste Co., 32 N. Clark St., Chicago, will establish plant for utilizing wood waste products, etc.; proposals invited on future plants, specifications for which will be furnished; lately noted inceptd., \$100,000

capital, by Thomas A. Dungan and others. (See Machinery Wanted.)

Ark., Fayetteville.—Novelties.—Fassman Handy Paper Case Co., capital \$10,000, inceptd.; M. W. Fassman, Pres.; M. L. Fassman, V.-P.; C. O. Teeter, Secy.-Treas.

Ark., Little Rock.—Indexes.—Estes Title Index Co., capital stock \$250,000, inceptd.; E. L. McElaney, Pres.; Geo. W. Murphy, V.-P.; T. L. Bond, Secy.

Fla., Tampa.—Cinder Guard.—Kennon Cinder Guard Co. inceptd., capital \$2500, by C. W. Kennon, H. M. Hunt and John F. Shea.

Ga., Columbus.—Cigars.—Columbus Cuban Cigar Co. will establish cigar factory; Geo. A. Jackson, Tampa, Fla., principal owner.

Ga., Savannah.—Naval Stores.—Standard Naval Stores Co., capital stock \$500,000, inceptd. by J. F. C. Myers, C. J. DeLoach and J. E. Driscoll.

Ky., Louisville.—Shoes.—F. E. Reeser Shoe Mfg. Co., capital stock \$75,000, inceptd. by W. M. Reeser, F. E. Reeser and Earl F. Reeser.

La., Eola.—Syrup.—Viloy Sugar Co. will install evaporators and other machinery for manufacturing syrup.

La., New Orleans.—Brewery.—American Brewing Co. let contract, it is reported, to George Glover, New Orleans, to erect reinforced concrete buildings to replace present structures; will install new machinery, etc.; plans by Chicago architect.

La., New Orleans.—Embalming Fluids.—Aromatic Preservative Co., capital stock \$50,000, inceptd.; Chas. N. Wogan, Pres.; David G. Jackson, V.-P.; Chas. J. Davis, Secy.; O. F. Ernst, Treas.

La., New Orleans.—Sauce.—Lowell R. Galdry will enlarge and remodel plant for manufacturing habasco pepper sauce. (See Machinery Wanted.)

Md., Baltimore.—Clothing.—Strouse & Bros., Paen and Lombard Sts., will erect factory building; 6 stories; brick; stone trimmings; concrete foundation; iron and steel work; slag roof; steam heat; electric light; elevators; cement floors; bids opened Sept. 26.

Md., Baltimore.—Bakery.—City Baking Co., Equitable Bldg., will have plans by John Freund, Jr., 508-509 Hoffman Bldg., Baltimore, for addition to White Bakery at 416-422 S. Hanover St.; 105x120 ft.; 4 and 5 stories; 20 ovens; cost \$100,000. (Lately noted.)

Md., Baltimore.—Distillery.—Hannis Distillery Co., Stockholm and Russell Sts., will erect addition to plant; brick; 1 and 2 stories; 42x56 ft.; W. Wathen, Archt.; Jacob Peters, Contr., 3203 Gough St.

Md., Baltimore.—Asphaltum, etc.—U. S. Asphalt Refining Co., West Bldg., 90 West St., New York, will make general increase in Baltimore plant; fireproof construction; building proposals opened as required; contracts partly let to John Schlee & Co., 2314 O'Donnell St., Baltimore; install machine shop complete, stills, tanks, etc.; produce asphaltum, road oils, etc.; John H. Zink, Mgr., East Brooklyn, Baltimore; lately noted to increase 25 per cent.; present annual capacity 70,000 tons asphalt and 400,000 bbls. oil. (See Machinery Wanted.)

Md., Easton.—Bakery.—Herbert Cox will build steam bakery. (See Dwellings.)

Miss., Brookhaven.—Baking Powder, etc.—Ponides Co., Aurora, Ill., will establish plant to manufacture powder, etc.; increase capacity; erect drying house for sweet potatoes, 200 bu. capacity; later will erect cannery with daily capacity 5000 cans.

Mo., Kansas City.—Mops.—J. W. Ople Mfg. Co. will erect building at 19th and Holmes Sts.; also utilize building at 19th St. and Lydia Ave.

Mo., St. Joseph.—Opal Cleaner Co., capital stock \$30,000, inceptd. by C. N. Philley, L. C. Lange and Ralph Van Houten.

Mo., St. Louis.—Jewelry.—Gutfreund-Arnold Jewelry Mfg. Co., capital stock \$200, inceptd. by Jos. I. Gutfreund, S. J. Arnold and Theresia A. Gutfreund.

Mo., St. Louis.—Butterine.—St. Louis Butterine Mfg. Co., 129 Walnut St., organized with Louis B. Nichols, Jr., Pres. and Mgr., G. C. Millan V.-P., Chas. H. Nahr Secy.-Treas.; rented building; machinery supplied. (Lately noted inceptd., \$10,000 capital stock.)

N. C., Clayton.—Showcases.—Clayton Showcase & Mantel Co., capital \$20,000, inceptd. by Riley R. Gulley, Chas. G. Gulley, L. M. Edgerton and others.

N. C., Winston Salem.—Cigars.—Dixie Cigar Co., capital \$25,000, inceptd. by W. E. Landreth, Winston Salem; E. D. Carter, Madison, N. C., and John D. Bailey, Mt. Pleasant, Fla.

Okla., Oklahoma City.—Peanut Butter, etc.—Russell-Duncan Jobbers Mills is installing

peanut huller; new mill, 2 cars daily capacity; cost about \$30,000.

Okl., Oklahoma City—Paint and Glass.—Leech Paint & Glass Co., capital stock \$10,000, inceptd. by Earl E. Leech, Charles F. Goodart and P. J. Hodgins.

Okl., Tonkawa—Hog Remedy.—O. S. Hog Remedy Co., capital \$9000, inceptd. by J. R. Hicks, R. N. Frutts and F. D. Olmstead.

Okl., Tulsa—Paper Bottles.—Parity Paper Bottle Corp., C. A. Cook, representative, is conferring with Commercial Club relative to establishing plant.

S. C., Charleston—Clothing.—W. J. Skinner Clothing Co., capital \$15,000, inceptd.; W. J. Skinner, Pres.-Mng.; John McCrady, V.-P.; V. Emery, Secy.-Treas.

Tenn., Columbia—Wrenches.—Bd. of Trade communicating with C. C. Guernsey of New Hampshire relative to establishing wrench factory.

Tenn., Knoxville—Peanut Butter, etc.—Appalachian Products Co., 316 E. Depot St., organized; H. M. Simmonds, Pres.; McD. Pettway, Secy.; will manufacture peanut butter, potato chips, syrup, etc.; previously noted inceptd., \$10,000 capital. (See Machinery Wanted.)

Tex., Arlington—Creamery.—Midway Creamery Co., capital stock \$10,000, inceptd. by E. F. Sewell, D. H. Lester and C. C. Waller.

Tex., Dallas—Plumbing Supplies, etc.—Hamilton Co., capital stock \$10,000, inceptd. by E. F. Hamilton, V. A. Olmstead and Mrs. Isabella Hamilton.

Tex., El Paso—Lard and Soap.—Texas Refining Co., Greenville, Tex., will establish lard refinery and soap factory.

Tex., El Paso—Saddles, etc.—E. T. Armonett, 1701 Montana St., will establish saddle, harness and shoe factory.

Va., Martinsville—Mirrors.—Virginia Mirror Co., capital \$50,000, inceptd. with A. D. Witten, Pres.; J. W. Carter, Jr., Secy. (This is company lately reported organized with Mr. Witten president.)

Va., Norton—Bottling.—F. B. Cline will erect bottling plant; 3 stories; 50x150 ft.; brick.

Va., Suffolk—Air Valves.—A. A. V. Specialty Co., capital stock \$10,000, inceptd.; A. C. Nurney, Pres.; E. Jones Phillips, V.-P.; H. W. Phillips, Secy.-Treas.; no buildings to be erected nor machinery installed at present.

W. Va., Charleston—Nut Locks.—Nut Lock Mfg. Co., capital stock \$50,000, inceptd. by Ernest Moore, John S. Cole, C. E. Rudesill and others.

W. Va., Dunbar—Photo Glass.—Thatcher-Whittemore Glass Co., St. Louis, Mo., will establish plant; cost \$75,000; site, 5 acres.

W. Va., Wheeling—Medicine.—Neuralgylne Co., H. F. Behrens, Pres., secured permit to erect building; 5 stories and basement; reinforced concrete; use for manufacturing, storage and office purposes; cost \$100,000; R. R. Kitchen Co., Pittsburgh, Pa., Contr. in charge; C. W. Bates, Archt., Board of Trade Bldg., Wheeling. (Previously noted.)

## MOTORS AND GARAGES

Fla., Miami—Garage.—Phillip Elendorf will erect garage; 1 story; reinforced concrete; leased to J. W. Harper, agent for Indian motorcycle.

Ky., Louisville—Garage.—Elizabeth B. Brown will erect garage; cost \$3000.

Mo., St. Louis—Garage.—Oscar Herf, 328 Odd Fellows' Bldg., will erect brick garage; cost \$4000.

Mo., St. Louis—Garage.—E. F. Whittemore, 328 Odd Fellows' Bldg., will erect brick garage; cost \$4000.

N. C., Monroe—Garage.—Henderson Garage & Machine Co., capital \$25,000, inceptd. by F. G. Henderson, T. J. Payne and R. N. Payne.

N. C., Statesville—Garage.—Carolina Motor Co. organized; H. H. Yount, Pres.; S. B. Miller, Secy.-Treas.; is erecting 50x100-ft. building; machinery purchased. (Lately noted inceptd., \$25,000 capital.)

S. C., Chester—Garage.—W. W. Coogler & Son will build garage; 60x80 ft.; brick; cost \$3500; day labor.

Tex., Bay City—Garage, etc.—B. E. Norvell has plans by R. L. Pierce, San Antonio, Tex., for garage and office building; 50x140 ft.; fireproof construction; electric lighting; cost \$15,000.

Tex., Floresville—Garage.—M. A. Newman Garage Co., capital stock \$5000, inceptd. by J. E. Dewees, M. A. Newman and J. H. Brown.

Tex., San Antonio—Motor Trucks.—Texas Motor Truck Co., capital stock \$10,000,

inceptd. by Wm. H. Smith, Marvin Trice and S. Burg.

Va., Norfolk—Salesroom.—Ford Motor Co., Detroit, Mich., will erect salesroom; 2 stories; brick.

Va., Staunton—Livery.—Staunton Automobile Livery & Transfer Co., capital \$25,000, inceptd.; N. C. Williams, Pres.; T. N. Hoopes, Secy.

## RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Tex., Dallas—Dallas Consolidated Electric Street Ry., E. T. Moore, Gen. Mgr., 355 Commerce St., has plans for shops, 180x155 ft.; mch. in present shops and additional equipment will be installed; use old shops for barns and storage; cost \$125,000.

## ROAD AND STREET WORK

Ala., Birmingham—Walter G. Kirkpatrick, City Engr., will construct asphalt paving under Imp. Ord. No. 766-C; also sidewalks under Imp. Ord. No. 669-C and 680-C; bids until Sept. 23.

Ala., Selma—Southern Ry., B. Herman, Ch. Engr., Washington, D. C., will pave around freight terminals; probably vitrified brick; cost \$7500.

Ala., Scottsboro.—W. S. Keller, State Highway Engr., Montgomery, let contract to G. P. Bouldin, Scottsboro, to construct State-aid road from Bass to Tennessee-Alabama line; cost \$8000.

Ark., Fort Smith—City contemplates paving N. and S. 6th St.; proposed to pave N. 6th with creosoted wooden blocks and vitrified brick on concrete foundation; 3100 lin. ft.; cost about \$28,000; plan to resurface S. 6th with sheet asphalt. Address City Engr.

Ark., Jonesboro.—Thos. Burnes, Mayor, states bond bids were rejected and proposed contract will not be let at present in Paving Dist. No. 10. (Bids lately noted to be opened Sept. 7.)

Fla., Auburndale.—City contemplates issuing \$30,000 bonds for road improvements; Elmer E. Cline, Pres., Board of Trade, states as follows: 2.9 ml. vitrified brick State road through town; balance (8 ml.) Bartow marl or sand, and oil binder for streets; E. S. Anderson, probable Engr.

Fla., Bonifay.—Holmes county voted \$40,000 bonds to construct roads. Address County Commrs.

Fla., Clearwater.—City will vote on \$18,000 bonds for street paving. Address The Mayor.

Fla., Jacksonville.—Duval County Commrs. invite bids for brick paving of 5½ ml. on road to Baldwin.

Fla., Jacksonville.—Duval county will pave with shell Steele Ave. from E. Mayport to the beach; bids at Courthouse until Oct. 6; Frank Brown, Clk. (See Machinery, etc., Wanted.)

Fla., Pensacola.—Thos. A. Johnson, Clerk Escambia County Commrs., advises it is proposed to call election soon on lately noted bond issue of \$1,500,000; \$100,000 to build bridge across Escambia River; \$1,400,000 for roads on 6-in. concrete foundation. Address County Commrs.

Fla., Miami.—City, W. B. Moore, Clk., will grade, curb and pave on 11th and 12th Sts. and Aves. B, C and D; creosoted wood blocks and asphaltic concrete; bids until Sept. 29. (See Machinery Wanted.)

Fla., Sanford.—Seminole County Commrs. let contract Hankinson & Hagler, Augusta, Ga., to furnish about 5,000,000 vitrified bricks for 25 miles road; let construction contract to Wilson Construction Co., Jacksonville, and Hand Bros., Sanford; material and construction cost about \$200,000; Engr., H. S. Jaudon Engineering Co., Savannah, Ga. Wilson company wires Manufacturers Record: "We will be awarded about 15 ml. and Hand Bros. the balance." (Lately noted.)

Fla., St. Andrews.—City will construct following work: 3 ml. shell road, including 3 bridges, right of way, clearing, grubbing, grading and laying sewer drains; bids until Oct. 28; S. J. Gainer, Mayor. (See Machinery Wanted.)

Fla., St. Petersburg.—City, J. G. Bradshaw, Commr. Finance, contemplates building 6 ml. brick blvd. 20 ft. wide; plans not complete.

Fla., Tavares.—Lake county will vote on \$500,000 bonds to improve roads; use sand-oil material. Address County Commrs.

Ga., Valdosta.—City voted \$35,000 bonds to pave streets. Address The Mayor. (Lately noted.)

Ga., Waycross.—City will pave Gilmore St. with brick; width 32 ft.; concrete curbing; cost \$30,000.

Ky., Covington.—Kenton county will vote

on \$100,000 bonds to improve roads. Address County Commrs.

Ky., Louisville.—Jefferson County Commrs. let contract Hoke Co., Louisville, at \$874 to construct Plum Valley Rd.; 2½ ml.; water-bound macadam.

Ky., Louisville.—City will pave N. St., 3d to 7th St., and Hazel St., Woodland Ave. to Gibson La., with asphalt; Bickel Asphalt Paving Co., Louisville, lowest bidder; estimated cost, \$23,000.

La., Amite.—Tangipahoa parish will petition Police Jury for authority to vote on \$75,000 bonds to construct roads.

La., Baton Rouge.—Police Jury soon ask bids to construct 15 ml. gravel road from Baton Rouge to Hope Villa; \$52,000 available. (\$15,000 bonds for portion of cost lately noted.)

La., New Orleans.—City Council adopted ordinance providing for paving with pitch lake asphalt N. Rampart St. from Canal to St. Louis St. and Lowerline St. from St. Charles to Jeannette St.; W. J. Hardee, City Engr.

La., Opelousas.—City invites bids for 12 blocks street paving and several ml. sidewalks; \$100,000 available for street paving. Address The Mayor.

La., Shreveport.—City will pave Herndon Ave., Creswell to White St., and White St., Herndon to Wilkinson St.; Southern Bitulithic Co., Nashville, Tenn., is Contr.

Md., Baltimore.—City let Contract No. 61 Southern Paving & Contracting Co., Chattanooga, Tenn., at \$50,973.90; calls for paving East Falls Ave., Stiles to Aliceanna Sts., and Eastern Ave., East Falls Ave. to Caroline St. with sheet asphalt on 8-in. concrete base; Eastern Ave., Caroline to Bond St., with granite blocks, and Eastern Ave., Bond St. to Broadway, with sheet asphalt on 6-in. base; also 2 driveways into sewerage pumping station on East Falls Ave. with vitrified brick on 4-in. base; sheet asphalt, 13,550 sq. yds.; vitrified block, 2330 sq. yds.; granite block, 3550 sq. yds. (Lately noted.)

Md., Baltimore.—City let Contract No. 71 Baltimore Asphalt Block & Tile Co., 231 Courtland St., Baltimore; calls for paving with sheet asphalt portions of St. Paul, Laurens and Lanvale Sts.; 5060 sq. yds.; 5 and 6-in. concrete base. (Lately noted.)

Md., Baltimore.—State Roads Com., Wm. L. Marcy, Secy., 601 Garrett Bldg., will build section State highway along Liberty Heights Ave. from Garrison Ave. to city limits, about .45 ml.; sheet asphalt and vitrified brick; bids received until Oct. 6. (See Machinery Wanted.)

Miss., Yazoo City.—Yazoo county will issue \$77,500 road bonds. Address County Commrs.

Mo., St. Louis.—Board Public Improvements will open bids Oct. 7 for street improvements; pave Euclid Ave., Florissant to Thekla St., brick, cost \$13,594; Cote Brillante, Euclid to King's Highway, \$8915; Von Versen St., from Belt east 576 ft., wood block, cost \$4327; various alley improvements to cost \$30,907.

S. C., Darlington.—City let contract J. R. Steele, Bennettsville, to pave Orange, Broad and Spring Sts.

S. C., McBee.—Alligator township of Chesterfield county voted \$40,000 bonds to improve roads. Address Township Commrs.

Tenn., Jonesboro.—Town Council appropriated \$5000 to macadamize streets; engaged Robert Dyer, C. E., Jonesboro, Tenn., to make surveys, etc.; W. P. Shipley, Mayor, states probably expend \$25,000 on street improvements.

Tenn., Loudon.—Loudon County Commrs. let contract Parker Construction Co., Chattanooga, to construct roads on south side Tennessee River, and to White, Wilkerson & Marcum, Lenoir City, balance of road construction; \$150,000 available.

Tex., Alice.—Jim Wells county will vote Oct. 25 on \$125,000 bonds for roads and bridges; W. R. Perkins, County Judge.

Tex., Belton.—Bell County Commrs. will construct 55 ml. road in Precinct No. 1; local gravel; bids until Sept. 24; W. E. Hall, Auditor. (See Machinery Wanted.)

Tex., Crystal City.—City let contract Wells & Everts, San Antonio, to construct 3 blocks concrete sidewalks and crossings for business district; width 8 ft.

Tex., Dallas.—City let contract Southern Westrumite Co. of Dallas and Houston to resurface Elm St. from Crowds to Mill Creek; 3802 sq. yds.; cost about \$7000. (Lately noted.)

Tex., Fort Worth.—City will replace about 8 ml. of gutters; cost \$6000 to \$7000; City Com. invites bids.

Tex., Fort Worth.—City will resurface Jennings Ave. from city hall to Peter Smith St.; cost about \$10,000. Address The Mayor.

Tex., Galveston.—Colorado-to-Gulf Highway Assn., John H. Dean of Dallas, Pres. of Gulf division, selected route for automobile highway; Robertson County Commrs., Franklin, Tex., have \$500,000 bond issue for construction in their county; various other counties interested.

Tex., Lockhart.—Precinct No. 1, Caldwell county, will vote Oct. 14 on lately-noted \$50,000 bonds for graveled roads. J. T. Ellis, County Judge.

Tex., Mexia.—City voted \$20,000 bonds to pave streets and sidewalks in business district. Address The Mayor. (Lately noted.)

Tex., Rosenberg.—City votes Oct. 6 on \$12,500 bonds to improve streets. Address The Mayor.

Tex., San Antonio.—Bexar County Commrs. let contract W. H. Davis to clay and grade Smith Rd.

Va., Blacksburg.—Blacksburg Dist. of Montgomery county contemplates voting on \$100,000 bonds to construct roads. Address Dist. Commrs.

Va., Richmond.—City contemplates paving with asphalt block 9th St. from Grace to Broad St.; \$3336 available. Chas. E. Bolling, City Engr.

Va., Richmond.—State Highway Com., P. St. John Wilson, Engr., has \$39,500 available for construction of Richmond to Washington road.

Va., Richmond.—City will construct granolithic curb, gutter and sewers; bids until Sept. 22; Chas. E. Bolling, City Engr. (See Sewer Construction and Machinery Wanted.)

W. Va., Warwood.—City will grade, curb and pave, etc., Main St. from 23d to 26th St.; bids until Sept. 30; Frank W. Klein, Recorder. (See Machinery Wanted.)

## SEWER CONSTRUCTION

Ala., Alabama City.—City engaged Wilburn Hill, Gadsden, to prepare plans and specifications for sewer system, water-works and city hall; cost of sewer system, \$18,500. Chas. West, City Clerk. (Lately noted.)

Ark., Little Rock.—Street Improvement Dist. No. 137, F. L. Holt, Secy., will excavate, lower sewers and install drainage on Rice St.; bids until Sept. 26. (See Machinery Wanted.)

Ark., Little Rock.—Sewer Dist. organized to construct sewer system; will be added to Sewer Improvement Dist. No. 69, of which C. E. Heckler and others are Commrs.

Fla., Clearwater.—City will vote on \$10,000 bonds to extend sewer system. Address The Mayor.

Fla., Jacksonville.—City will lay sewers in sections of 16th, 1st, 19th and 10th Sts., about 11 blocks; City Council invites bids; Philip Priorleau, City Engr.

Md., Baltimore.—City will construct storm water drains. Contract No. 31; 1100 lin. ft. 30-in. and 33-in. masonry drain, 5350 lin. ft. 15-in. and 24-in. T. C. pipe drain, 900 lin. ft. 12-in. and 15-in. inlet connections; bids until Oct. 1; Chas. England, Chmn. Sewerage Com. (See Machinery Wanted.)

Miss., Laurel.—City Commrs. rescinded action awarding contract for storm sewer construction (lately noted) to S. A. Carnes; will readvertise for bids.

Mo., Charleston.—City will expend \$28,000 to construct pipe sewers and sewerage disposal plant; opens bids during spring 1914; Frank L. Wilcox, Engr., Chemical Bldg., St. Louis, Mo.

N. C., Spencer.—City will construct sewer outfall from Salisbury Ave. to Grant's Creek; 18-in. piping; cost \$4000 to \$5000.

Okl., Henryetta.—City will construct 40 blocks sanitary lateral sewers and sewage-disposal plant; Benham Engineering Co., engr., 457 American National Bank Bldg., Oklahoma City; bids received until Oct. 1; previously noted. (See Machinery Wanted.)

Tex., Houston Heights.—City votes Dec. 18 on \$200,000 bonds to construct sanitary sewer system; arranged for connection with Houston system in Sixth or First wards, requiring laying of 7000 ft. pipe outside city limits costing about \$25,000. Address The Mayor. (Lately noted.)

Tex., Mission.—City contemplates issuing bonds for sewer system. Address The Mayor.

Va., Ashland.—Ashland Gas, Sewer & Water Co. inceptd.; D. B. Cox, Pres. (See Water-works.)

Va., Charlottesville.—Redland Land Co. proposes to construct sewer system.

Va., Richmond.—City will construct certain sewers, also granolithic curb and gut-



ter; bids until Sept. 22; Chas. E. Bolling, City Engr. (See Machinery Wanted.)  
W. Va., Follansbee.—City will issue \$15,000 sewer bonds; F. Bowes, Town Clk.

### TELEPHONE SYSTEMS

Ark., Harrison.—Boone County Telephone Co. will build telephone exchange.

Fla., Miami—Wireless Station.—Marconi Wireless Telegraph Co. of America, F. W. Samuels, Chief Engr., 231 Broadway, New York, advises of plans to erect 5 K. W. wireless station at Miami Beach by own engineering force.

Tex., Sherman.—Southwestern Telephone & Telegraph Co. (main office, Dallas, Tex.) will erect exchange; 3 stories and basement; cost \$40,000 to \$50,000.

### TEXTILE MILLS

Ala., Ozark.—Cotton Yarn.—W. D. McNeill, Hotel Mixon, and others will build cotton mill; he wires Manufacturers Record: "Cost \$100,000; brick construction; 5000 spindles; 22s knitting yarns."

Ga., Macon.—Woolen Goods.—Woolen Mills, maximum capital stock \$60,000, incorporated by J. D. Renfroe, Mrs. J. D. Renfroe and Oliver C. Hancock.

N. C., Charlotte.—Cotton Yarn, etc.—Fidelity Mfg. Co. will add 1000 spindles; has 14,000 spindles, 50 looms, etc.

N. C., Fayetteville.—Cotton Goods.—Cape Fear Cotton Mills, authorized capital \$100,000, inceptd. by A. P. Rhyne of Mt. Holly, N. C.; A. R. McEachern, J. M. Butler, James A. Johnson and others of St. Pauls, N. C.

N. C., Greensboro.—Canton Flannels, etc.—Revolution Cotton Mills will, it is reported, build addition costing \$1,250,000 to \$1,500,000; plans and specifications being prepared for new buildings requiring 2,000,000 bricks, of which 500,000 have been ordered; install machinery to include 1200 looms, etc. Company writes to Manufacturers Record: "Nothing to give out, as we have not determined upon anything for the present."

N. C., Haw River.—Ginghams, etc.—Holt-Granite Mfg. Co. proposes to add 6 revolving flat cards and 12 deliveries of drawings to operate all its spinning; has 20,928 ring spindles, 688 narrow looms, etc.

N. C., Monroe.—Cotton Cloth.—Jackson Mills Co., authorized capital \$125,000, inceptd. by W. C. Heath, J. R. English and R. A. Morrow.

N. C., Wilson.—Cotton Warp.—Wilson Cotton Mills Co. increased capital from \$25,000 to \$40,000; has 6240 ring spindles, 21 cards, etc.

S. C., Anderson.—Cotton Cloth.—Wellington, Sears & Co., Boston, bid in Cox Mfg. Co. property for \$125,000; mill has 25,000 spindles, 400 looms, electric power, etc. Wellington, Sears & Co. wire Manufacturers Record: "When purchase consummated mill will be reorganized under new corporation, enlarged and equipped with new machinery for manufacture of cotton duck, especially single and double filling for tent, awning and converting trade."

S. C., Batesville.—Cotton Yarn, etc.—Batesville Mfg. Co. plans to establish weaving department; has 3000 ring spindles, 10 cards, etc.; writes to Manufacturers Record: "As soon as plans are settled will write particulars; they are not yet definite."

S. C., Greenwood.—Sheetings.—Panola Cotton Mills will, it is reported, add 5000 spindles; now has 10,000 spindles, 250 looms, etc.

Tenn., Cleveland.—Woolen Cloth.—Cleveland Woolen Mills plans to add 12 looms; now has 78 looms.

### WATER-POWER DEVELOPMENTS

Mo., Larissa.—Ava Electric Light Co., Ava, Mo., will develop 80 H. P.; cost of water-power, \$5000; opens bids Sept. 23 on \$3000 concrete work; total cost of plant, \$20,000; L. H. Pettit, Engr. in charge; lately noted under Electric Plants. (See Machinery Wanted.)

S. C., Walhalla.—Linier Power Co., capital stock \$40,000, inceptd. by John J. Linier of Walhalla and Marcellus E. Thornton, Hickory, N. C.; will build dam and power-house at old Mauldin Mill Shoals, 7½ mi. from Walhalla.

Tenn., Bristol.—M. E. Thornton, Pres. Water-power Electric Co., Hickory, N. C., contemplates construction of hydro-electric plant.

### WATER-WORKS

Ala., Alabama City.—City engaged Wilburn Hill, Gadsden, to prepare plans and specifications for water-works, sewer system and

city hall; cost of water-works \$26,500; Chas. West, City Clerk. (Lately noted.)

Ala., Anniston.—Anniston Water Supply Co., H. B. Rudisill, Supt., will install about 800 ft. 12 in. and 4000 ft. 6 in. pipe for supplying various factories with water.

Ala., Roanoke.—City, W. Y. Chewning, Mayor, will expend \$21,000 on water works construction; Engr., J. B. McCrary Co., Atlanta, Ga. (Lately noted.)

Ala., Roanoke.—City has plans by J. B. McCrary Co., Atlanta, Ga., for water-works; cost \$30,000. (Lately noted as to issue \$20,000 water-works and electric-light bonds.)

Ala., Tuscaloosa.—City voted \$100,000 bonds to improve and extend water-works, including laying water mains and constructing reinforced concrete reservoir, 72 ft. diam., 60 ft. high, capacity 2,250,000 gals.; Morris Knowles, Engr., Pittsburgh, Pa.; date of opening bids not set.

Fla., Auburndale.—Elmer E. Cline, Pres. Board of Trade, states water and electric plant will be established.

Fla., Clearwater.—City will vote on \$5000 bonds to extend water mains. Address The Mayor.

Fla., High Springs.—City voted \$35,000 bonds to acquire water and electric-light plants. Address The Mayor.

Ga., Macon.—Academy for the Blind will construct water system; let contract for 15,000-gal. pneumatic tank and electrically-operated pumping equipment.

Ga., Rebecca.—City votes Oct. 8 on \$8000 water-works bonds. Address The Mayor.

Ga., Valdosta.—City voted \$15,000 bonds to extend water mains. Address The Mayor. (Lately noted.)

Ky., Carlisle.—City contemplates constructing water-works. Address The Mayor.

Ky., Flemingsburg.—City passed ordinance authorizing \$25,000 bonds for water-works. Address The Mayor.

Ky., Paintsville.—M. A. Castoe & Co., Engrs., Glenn Bldg., Cincinnati, O., prepared plans for water-works; cost \$50,000.

Ky., Paris.—Paris Water Co., Louisville & Nashville (W. H. Courtenay, Ch. Engr., Louisville, Ky.), Paris Ice Mfg. Co. and Paris Milling Co. will construct concrete dam across Stoner Creek to provide additional water supply; 80 ft. long; 20 ft. high; plans being prepared.

Ky., Taylorsville.—City contemplates constructing water-works. Address The Mayor.

Md., Baltimore.—City let contract at \$22,809 for pumping machinery for filtration plant at Lake Montebello and at \$26,800 for electric power equipment; Ezra B. Whitman, Water Engr. (Lately noted.)

Mo., Charleston.—City will expend \$40,000 for water-works improvement, including brick pumping station and 70,000 gal. tower and tank; opens bids during spring 1914; Frank L. Wilcox, Engr., Chemical Bldg., St. Louis, Mo. (Previously noted.)

Mo., Neosho.—City will construct water-works; cost \$65,000; about 1,000,000 gals. capacity; erect \$2200 brick or frame 32x50-ft. building; \$500,000 concrete reservoir; pump; about 20,000 ft. 10-in. pipe for gravity flow; date of opening construction and machinery bids not set; C. H. Sexton, City Engr. (Lately noted.)

Mo., St. Louis.—Beard Public Improvements will let contract Oct. 15 to erect superstructure of filter house; total length 700 ft. and width 140 ft.; headhouse, which will connect filter buildings, to be 140x60 ft.; contain apparatus for heating filter plant, dynamo for lighting and storage rooms; contract to be let in Nov.; heating to be by steam, direct radiation process; main pipe 16 in. diam. and several mi. radiating pipes; plant will increase daily capacity of water-works from 30,000,000 to 100,000,000 gals.; cost \$3,000,000; Henry W. Kiel, Mayor. (Previously noted.)

Okla., Bokhoma.—Wilson Lumber Co., W. M. Waterman, Gen. Mgr., will install water-works. (See Lumber Mfg.)

Tenn., Knoxville.—City let contract John M. McFarland, 412 E. Fifth Ave., Knoxville, to build addition to sedimentation basin; 678,015 gals.; reinforced concrete; cost \$12,000; Summers Henshaw, Engr. (Previously noted.)

Tenn., Pulaski.—Town will improve water system. Address Town Clerk.

Tex., Anderson.—Anderson Water Supply Co., capital stock \$4000, inceptd. by A. L. Brown, G. B. Kennard and J. G. McDonald.

Tex., Archer City.—W. C. Young, Mayor, states city purchased all material needed at present for lately-noted water-works construction.

Tex., Mission.—City contemplates arrang-

ing for construction of water-works. Address The Mayor.

Tex., Pendleton.—Pendleton Water Co., capital stock \$4000, inceptd. by W. W. Littlefield, W. W. Jennings and R. J. Carpenter.

Tex., Rosenberg.—City votes Oct. 6 on \$18,500 bonds to construct water-works; Randall-Lovegrove-Wyman, Engrs., Union National Bank Bldg., Houston. Address The Mayor. (Lately noted.)

Tex., San Antonio.—San Antonio Water Co., Robert J. Harding, Engr., will, it is reported, expend about \$1,000,000 for improvements; Mr. Harding wires Manufacturers Record: "New pumping station and equipment; new mains."

Tex., Sulphur Springs.—City will construct lock, dam and settling tanks on White Oak Creek, 2 mi. distant; cost \$10,000. Address The Mayor.

Tex., Teague.—City voted \$15,000 bonds to construct water-works. Address The Mayor.

Tex., Tioga.—City votes Oct. 4 on \$12,500 bonds to construct water-works. Address The Mayor.

Tex., Willis.—City voted \$7000 bonds for water-works. Address The Mayor.

Va., Ashland.—Ashland Gas, Sewer & Water Co., capital \$10,000, inceptd. by D. B. Cox, Pres.; W. L. Foy, Secy.; bids until Sept. 25 to lay 4000 ft. 8-in. standard cast-iron water mains; installing kerosene engine, placing fire hydrants; meters, etc.; cost \$6000; E. M. Hastings, Engr., Box 581.

Va., Charlottesville.—Redland Land Co. proposes to construct water-works.

Va., Richmond.—Richmond College, F. W. Bontwright, Pres., will lay water main along Patterson Ave. from corporate limits to college property at Westhampton; estimated cost \$25,000.

W. Va., Beckley.—Beckley Electric Light & Power Co. will install filtration plant; daily capacity 500,000 gals.; total cost about \$19,000; equipment ordered.

### WOODWORKING PLANTS

Ark., Little Rock.—Wagons and Furniture, F. S. Mordaunt of F. S. Mordaunt & Co., Chicago, interested in establishment of wagon and furniture factories.

Fla., Green Cove Springs.—Crates.—Green Cove Springs Crate Co., capital stock \$10,000, inceptd. to mfr. orange crates principally.

Fla., Jacksonville.—Caskets.—Excelsior Mfg. Co., L. T. Gregory, Pres.-Treas., will mfr. caskets; daily capacity 40; building erected and equipped. (Lately noted inceptd., \$50,000 capital stock.)

Ga., Macon.—Boxes and Crates.—Southern Package Mfg. Co., capital stock \$100,000, inceptd. by R. H. Edwards, F. P. Mansfield and Minter Wimberly; leased 6 acres as site for box and crate factory.

Ky., Middleburg.—Singletrees.—Yosemite Singletree Co., capital \$3000, inceptd. by R. B. and L. F. Young and Frank Napier.

La., Lake Charles.—Veneer.—Lake Charles Veneer Co., capital stock \$10,000, inceptd.; S. H. Spangler, Pres.-Treas.; John B. Kent, Jr., Secy. (Lately noted inceptd.)

Md., Baltimore.—Furniture.—G. and L. Gassinger leased 5-story warehouse and factory at 920-930 Clifford St.; will improve and equip as furniture factory.

Miss., Taylorsville.—Cooperage.—C. F. Peterson and others interested in erecting cooperage plant.

N. C., Madison.—Handles.—Carl Stossell & Co., Front Royal, Va., contemplate establishing plant.

S. C., Columbia.—Chairs.—Directors State Penitentiary will install chair factory; pro-

pose to use present buildings; initial cost \$13,000.

### BURNED

Ark., Argenta.—Geo. Emery's residence, 1801 Main St.; loss \$4000.

Ark., Little Rock.—Fletcher Coffee & Spice Co.'s plant; loss \$100,000.

D. C., Washington.—Carbarns at Takoma Park, owned by Baltimore & Washington Transit Co., 1413 H St. N. W.; loss \$25,000.

Fla., Carters.—Carter Bros.' sawmill; loss \$50,000.

Ga., Quitman.—Interstate Lumber Co. states shingle mill only was burned. (Shingle and planing mill lately reported burned.)

Ga., Quitman.—Building owned by Mrs. E. A. Jelks and Mrs. D. A. Denmark and occupied by H. P. Townsend, C. Y. Avera and others; loss \$5000.

Ky., Lexington.—Clubhouse, garages, stable, ice plant, etc., at Castleton Stock Farm; David M. Look, Prop.; loss \$100,000.

Ky., Louisville.—R. B. Tyler's cement plant near Tucker's Station; loss \$40,000 to \$50,000.

Ky., Murray.—W. L. Gilbert's residence; loss \$3000.

Ky., Pikeville.—William Greer's store on Shelby Creek.

Ky., Rochester.—Wm. Willis, Cashr. Green River Bank, states building lately reported burned was but slightly damaged.

Miss., Monticello.—John S. Lambert's saw-mill and gin; loss \$3000.

N. C., Lenoir.—A. W. Dula's garage.

Tenn., Dyersburg.—R. L. Hubbard's store; loss \$4000.

Tenn., Jackson.—Mobile & Ohio R. R.'s shops damaged; reported loss \$100,000; B. A. Wood, Ch. Engr., Mobile, Ala.

Tenn., Memphis.—Flippin-Jones Cotton Co.'s office, 40 S. Front St.; loss \$5000.

Tex., Corsicana.—Chris. L. Knox's residence; loss \$3000.

Tex., Dallas.—Dallas Wholesale Grocery Co.'s store, 402-408 S. Lamar St.; loss on building, owned by J. H. Turner, Henderson, Tex., \$20,000.

Tex., Dearborn.—McShane Lumber Co.'s boiler-house of planing mill; loss \$5000.

Tex., Fort Worth.—Hardy Co.'s paint store, 228 W. 11th St.; J. J. Langever's store; Olive Hotel, damaged; loss about \$15,000.

Tex., Georgetown.—Texas Gin Co.'s plant; main office, Waco; loss \$12,000.

Tex., Houston.—Joseph Hornberger's building, 910 Franklin Ave.; loss \$5000.

Tex., Rosenberg.—Planters' Gin Co.'s plant; loss about \$14,000.

Tex., Waco.—Goodman & Berlowitz's store; S. Kestner's store; loss about \$35,000.

Tex., Westhoff.—Gus Thieme's store, loss \$5000; Westhoff Drug Co.'s store, loss \$4000; Westhoff Dry Goods Co.'s store, loss \$3000; Westhoff Advertiser's building, loss \$1600; Kutne & Blaschke's store, loss \$5000; Geo. E. Langley's store, loss \$5000; Otto Rau's building, loss \$2000; Melschen & Seim's store, loss \$8000.

### DAMAGED BY STORM

Md., Darlington.—Mrs. R. F. Kennedy's residence and outbuildings; loss \$4000.

Md., Woodbine.—Dr. S. T. Hess' farm buildings; loss \$5000.

### WRECKED BY EXPLOSION

Tex., Waco.—Shaffer & Duke's cleaning plant at 102 Franklin St.

## BUILDING NEWS

### BUILDINGS PROPOSED

#### APARTMENT-HOUSES

Fla., Apopka.—Ernest Leibling contemplates building apartment and store building; 2 stories.

Ky., Louisville.—C. R. Shrader will erect frame apartment-house 113 Forest Court; cost \$6500.

Mo., St. Louis.—Minnie Snyder will erect two-story flat 5318 Labadie St.; cost \$3500.

Mo., St. Louis.—F. M. Dollmeyer will erect 2-story flat 2365 Clarence St.; cost \$6000.

Mo., St. Louis.—Bessie Munier will erect 2-story flat at 4140A Lee St.; cost \$4500.

Mo., St. Louis.—M. Mummert will erect tenement-house 4119 Junata St.; cost \$3500.

Mo., St. Louis.—McPherson Development Co., represented by Bush-Burns Realty Co., will erect Waverly and Ivanhoe Apartments, Waverly Pl. and Lafayette Ave.; 12 four and five-room suites; steam heat; smokeless boiler plant; vacuum cleaning system; cost \$50,000.

Mo., St. Louis.—Louis P. Clancy will erect double apartment-house Vandeventer Ave. and Palm St.

Mo., St. Louis.—Chas. F. Levy will erect apartment-house 5349 Berlin Ave.; cost \$52,000.

Mo., St. Louis.—J. H. Krueckmeyer will erect two-story tenement-house 4138-38A Kossuth St.; cost \$4700.

Mo., St. Louis.—Henry J. Reuter will erect 3-story tenement-house 3327 Kingsbury St.; cost \$9000.

Mo., St. Louis.—F. L. Dittmeier will erect 2-story tenement-house 4529 Athlone St.; cost \$3500.

Mo., St. Louis.—Matilda Miller will erect 2-story flat 3321 Humphrey St.; cost \$5000.

Okla., Tulsa.—S. Gallais will erect 11 apartment-houses Elgin Ave. between 3d and 5th Sts.; 2 stories; brick and frame; each to contain four 4-room suites; also erect 6 double brick dwellings on Detroit Ave. between 4th and 5th Sts.; 6 rooms each side on each floor; cost \$50,000.

Tex., Dallas.—Mrs. Anna Moser will erect store and apartment building. (See Stores.)

Tex., Texas City.—F. A. Gough will erect store and apartment building. (See Stores.)

Va., Richmond.—Mrs. J. W. Clary will erect 2-story brick tenement-house Balabridge St.; cost \$8000.

#### ASSOCIATION AND FRATERNAL

Ga., Atlanta.—Atlanta Lodge of Moose will erect building; 3 stories and basement; cost \$75,000.

Ga., Athens.—Y. M. C. A. will erect building.

Ky., Jackson.—Knights of Pythias and Dr. W. P. Hogg will erect building Main St.; 3 stories and basement; contain lodgerooms and offices.

S. C., Anderson.—B. P. O. E. will erect lodge building; A. H. Dagnall, B. B. Gossett and others, Com.

S. C., Columbia.—Masonic Temple Corp. Incipd.; D. E. Hydrick, Pres.; W. J. White, V. P.; W. P. Smith, Secy.-Treas.; will erect Masonic Temple.

Tex., Rosbud.—Sam Read Lodge, K. of P., will erect building Avenue C.

Tex., Sulphur Springs.—A. F. and A. M. will erect lodge building; 2 stories.

Va., Portsmouth.—D. Burr Jones, Gen. Secy., Y. M. C. A., may be addressed relative to erecting building to cost \$80,000; 4 stories; 113x85 ft.; plans by Louis E. Jallade, 37 Liberty St., New York. (Lately noted to open bids Sept. 23.)

Va., Roanoke.—Y. W. C. A. opens bids in 2 months to erect building; 100x110 ft.; mill construction; steam heat; electric elevator; slag roof; cost \$125,000; plans by L. E. Jallade, 37 Liberty St., New York, and H. Miller, Roanoke, Assoc. Archt. (Lately noted.)

W. Va., Wheeling.—Knights of Pythias will erect building.

#### BANK AND OFFICE

Ala., Attalla.—Attalla Bank has plans by D. O. Whitlind, Birmingham, for bank building; let contract Oct. 4 to erect; 35x70 ft.; 1 story; tile and marble floor; mahogany fixtures; cost several thousand dollars.

Ark., Helena.—Chas. Wooten will erect bank and office building; 4 or 5 stories.

Fla., DeFuniak Springs.—Cawthorn State Bank will erect building; 2 stories; pressed brick; plate-glass fronts.

Fla., Tampa.—Savings & Trust Co., A. C. Clewis and others, will have plans prepared by Bonfoey & Elliott, Tampa, for building 512 Franklin St.; marble front; pillars extending height of building; practically 2 stories; interior on mezzanine plan; frontage 26 ft.

Ga., Carrollton.—S. Helderens is having plans prepared by Morris & Morris, 525 Atlanta National Bank Bldg., Atlanta, for bank and office building; brick, steel and wood; tile floors; marble wainscoting; quarter-sawn oak finish; ornamental brackets and beams; vault; deposit boxes; fixtures; revolving door; sidewalk lights; electric fixtures; metal skylights; iron and copper marquee; steam and hot-water heat; lot 25x 80 ft.

Ky., Jackson.—Knights of Pythias and Dr. W. P. Hogg will erect lodge and office building. (See Association and Fraternal.)

Ky., Pineville.—Dr. J. G. Foley will erect brick office building; 2 stories.

Ky., Pineville.—W. M. Jones will erect 2-story brick office building.

Ky., Whitesburg.—First Nat'l Bank is having plans prepared by A. Dietz of Dietz Construction Co., Mt. Sterling, Ky., for bank and office building; cost \$25,000.

Ky., Louisville.—Fred G. Jones & Co. will erect brick office 1st and A Sts.; cost \$3000.

Miss., Charleston.—Tallahatchie Home Bank will erect building for stores, bank and offices; cost \$10,000.

Mo., Joplin.—Mrs. Lulu Taylor, 315 Moffett Ave., will erect office, store and school building. (See Schools.)

S. C., Georgetown.—Farmers & Merchants' Bank, Holmes B. Spring, Pres., will erect and equip bank building.

Tex., Bay City.—B. E. Norvell has plans for office and garage. (See Motors and Garages.)

Tex., Galveston.—Guaranty State Bank will erect building; 2 stories; 90x175 ft.; cost \$40,000; lease room 35x90 ft. to Government for postoffice.

#### CHURCHES

Ark., Hot Springs.—Central Methodist Church, Rev. D. Alonzo Monk, pastor, will rebuild church lately reported burned.

Fla., Miami.—Church of the Nazarene will erect building 4th St. between J and K Sts.; C. H. Kunkle, C. F. Weigle and J. H. Ebbe, trustees.

Ga., Decatur.—First Methodist Episcopal Church is having plans prepared by Morris & Morris, 525 Atlanta National Bank Bldg., Atlanta, for Sunday-school building; brick veneer; ventilating, blackboards, etc.

Md., Baltimore.—St. Mark's P. E. Church, Lombard St. near Parkin St., Rev. O. Woodward Zelger, rector, 864 W. Lombard St., will expend about \$10,000 for improvements to building and residence adjoining for parish-house; remodel interior of church, rearrange organ and choir loft, change auditorium and Sunday-school department, etc.

Md., Chesapeake City.—Summit Bridge Methodist Church, Rev. W. H. Kenny, pastor, will not erect building as lately reported.

N. C., Asheville.—Methodist Protestant Church, Rev. C. W. Bates, pastor, will erect building Merriman Ave. and Hillside St.; brick; 73x48 ft.

N. C., Winston.—First Baptist Church, Rev. C. W. Blanchard, pastor, will erect building; cost \$35,000; 58x126 ft.; electric lighting; slate roof; plans by J. M. McMichael, Charlotte, N. C.; date of opening bids not determined. Proposals may be addressed to Dr. J. M. Parrott.

N. C., Mooresville.—First Presbyterian Church, Rev. W. S. Wilson, pastor, will enlarge building.

Okla., Boley.—Methodist Episcopal Church (colored), E. L. Lagrand, Chrmn. Bldg. Com., has plans by McKissack & McKissack, Dallas, Tex., for building; basement, main auditorium and balcony; native stone; stucco trimming; cost \$10,000; plans ready for bids.

Tenn., Knoxville.—St. John's Episcopal Church will expend \$20,000 to erect building; 31x125 ft.; mill construction; vacuum steam heat; electric lighting; red slate roof; plans by L. C. Waters; bids opened Sept. 20. (Lately noted.)

Tex., Fort Worth.—Polytechnic Baptist Church, Rev. R. T. D. Carpenter, pastor, will erect building; 3 stories; red pressed brick; terra-cotta trimmings; auditorium and balcony to seat 1200; cost \$9000.

Tex., Rosbud.—St. Rosa Parish, O. W. Stuth, G. L. Mayer, H. Munch and others, trustees, will erect building; also plans to erect academy to be conducted by Sisters of Divine Providence, San Antonio.

Tex., Terrell.—A. M. E. Church, W. H. Burnett, Chrmn. Bldg. Com., has plans by McKissack & McKissack, Dallas, Tex., for \$6000 brick and concrete building.

Va., Hampton.—Hampton Presbyterian Church, Rev. Charles Friend, pastor, has plans by A. C. Husted for Sunday-school room; 40x35 ft.; ordinary construction; steam heat; tin or slate roof; cost \$5000; date of opening bids not set; proposals may be addressed to J. W. Woodruff. (Lately noted.)

Va., Richmond.—Randolph Street Baptist Church has plans by Herbert L. Cain for building; cost \$20,000.

#### CITY AND COUNTY

Ala., Birmingham.—Auditorium.—City voted favorably to call \$300,000 bond election to erect auditorium; will probably hold election Nov. 3 (tentative date); Culpeper Exum, Pres. City Commrs.

Ala., Selma.—Jail.—Dallas County Commrs. will expend several thousand dollars to repair jail. (Lately noted to erect building or repair structure.)

Ark., Jonesboro.—City Hall.—City will erect \$30,000 city hall; also install fire equipment. Address The Mayor.

Ark., Helena.—Jail.—Phillips county, Frank F. Kitchens, Commr. Pub. Bldgs., will receive bids until Oct. 1 to erect courthouse and jail. (See Courthouses.)

Ark., Little Rock.—City Hall and Firehouse.—Pulaski Heights, L. H. Bradley, Mayor, plans to erect combined hosehouse and city hall; pressed-brick front.

Fla., Bartow.—Jail.—Polk County Commrs. will expend \$50,000 to \$60,000 to erect jail; plans and specifications to be submitted and contract given Jan. 5; bids will be advertised. (Lately noted.)

Fla., Jacksonville.—Jail.—Duval County Commrs. are having plans prepared for improvements to jail. (See Courthouses.)

Ga., Atlanta.—Pavilion.—Park Dept. receives bids until Oct. 6 to erect pavilion and men's public comfort station in Grant Park; plans and specifications at office of Gen. Mgr. of Parks, City Hall, and Hentz & Reid, Archts., Candler Bldg., Atlanta; refreshment pavilion 60x60 ft.; semi fireproof; tile roof. (Lately noted.)

Ga., Griffin.—Jail.—Spalding County Commissioners rejected all bids to erect jail; will have plans revised by Fredk. Ausfeld, Bell Bldg., Montgomery, Ala., and advertise for new bids. (Lately noted.)

Ga., Savannah.—Auditorium.—City voted \$300,000 bonds to erect auditorium; W. J. Pierpont, Chrm. Trade, Commerce and Finance Com.; plans not made. (Previously noted.)

Mo., Kansas City.—Sanitarium.—Hospital and Health Board has \$120,000 to erect sanitarium for tuberculosis.

N. C., Wilmington.—Jail.—New Hanover County Commrs. open bids about Nov. 10 to erect jail; 134x176 ft.; fireproof; steam heat; electric lighting; built-up gravel roof; cost \$22,500; James F. Gause, Jr., Archt., Wilmington.

Tenn., Clarksville.—City Hall.—City will erect city hall; fireproof; 2 stories; cost \$10,000; G. Tandy Smith, Archt.

Tex., Beaumont.—Hospital.—Jefferson County Medical Society, Chamber of Commerce and Port Arthur (Tex.) Board of Trade are interested in erection of \$100,000 hospital at Beaumont and \$40,000 dispensary at Port Arthur; will petition County Commrs. to order election on \$140,000 bond issue.

Tex., Port Arthur.—Dispensary.—Board of Trade, Beaumont Chamber of Commerce and Jefferson County Commrs., Beaumont, are interested in erection of dispensary, etc. (See Tex., Beaumont.)

Va., Richmond.—Market.—City will expend \$43,000 to erect meat market; 35 ft. 3 in. by 53 ft.; fireproof; electric lighting; slag roof; plans by Carneal & Johnston; bids opened Oct. 2; J. E. Butler, Bldg. Inspector; contractors estimating; J. T. Wilson, J. T. Nuckols, Travers Wood Co., A. M. Walkup, S. C. Woodward, Wise Granite Co., R. H. Richardson, W. A. Chesterman, C. W. Davis, J. E. Beazley Co.—all of Richmond. (Lately noted.)

#### COURTHOUSES

Ark., Helena.—Phillips county, Frank F. Kitchens, Commr. Public Buildings, will receive bids until Oct. 4 to erect courthouse and jail; 90x122 ft.; steam heat; electric wiring; electric elevator; gravel roof; cost about \$200,000; plans and specifications at office Mr. Kitchens, Solomon Bldg., and Frank W. Gibb, Archt., Gazette Bldg., Little Rock. (Lately noted.)

Fla., Jacksonville.—Duval County Commrs. are having plans prepared by H. J. Khutho, Jacksonville, for original court building and improvements to jail. (Lately noted.)

Fla., Madison.—Madison County Commrs. receive bids until Oct. 8 to erect courthouse; brick and stone; tile roof; semi-fireproof; steam heat; cost \$50,000; plans and specifications from Bishop & Greer, Archts., Valdosta, Ga., on deposit of \$50; D. F. Burnett, Jr., Clerk.

Tex., Hebbronville.—Jim Hogg County Commrs. have plans by Henry T. Phelps & Co., Corpus Christi, Tex., for courthouse; 2 stories; brick; cost \$15,000.

#### DWELLINGS

D. C., Washington.—Mrs. Marie C. Lehr has plans by Clarke Waggaman, 1124 Connecticut Ave. N. W., Washington, for residence 1627 New Hampshire Ave. N. W.; 4 stories; brick and stone; garage in rear; cost \$50,000.

D. C., Washington.—Simon Oppenheimer, Southern Bldg., will erect 2 dwellings 1414-16 12th St. N. W.; 2 stories; brick; cost \$7000; J. Germuller, Archt., 456 Louisiana Ave. N. W.; construction by owner.

D. C., Washington.—Chas. H. Taylor, 3549 Macomb St. N. W., will erect 2-story frame pebble-dash dwelling 3546 Macomb St.; cost \$5000; R. G. Moore, Archt., 908 17th St. N. W.; construction by owner.

D. C., Washington.—C. L. Tankersly, 719 13th St. N. W., will erect 5 dwellings 1864-72 3d St.; 2 stories; brick; red brick finish; cost \$11,000; C. S. Wallon, Archt.

D. C., Washington.—Howard Etchison, 1945 Calvert St. N. W., will erect two 3-story

residences 1818-20 Wyoming Ave.; French style; fronts finished in tapestry brick; stone porches and vestibules; cost \$14,000; A. E. Landvoigt, Archt., 1338 G St. N. W., Washington.

Fla., Narcoossee.—J. B. Houser contem plates erecting dwelling and store.

Fla., Wauchula.—Building & Investment Co. is being organized with \$20,000 capital by A. G. Smith, J. B. Long, J. C. McEwen and C. P. Durance; will erect number of bungalows and cottages.

Ga., Atlanta.—J. H. Whisenant will erect 2-story frame dwelling 954 Highland Ave.; cost \$4000; day labor.

Ga., Atlanta.—Dillon-Morris Co. will erect 2-story brick veneer dwelling 25 St. Charles Ave.; cost \$8000; day labor.

Ga., Atlanta.—Real Estate Trust Co. will erect four one-story frame dwellings East Ontario Ave.; cost \$10,000.

Ga., Atlanta.—J. B. Hightower will erect \$10,000 dwelling; 10 rooms; ordinary construction; brick veneer; hot-water heat; tile or slate roof; day labor. (Lately noted.)

Ga., Atlanta.—W. E. Worley will erect 5 bungalows Atlanta Ave.; cost \$2750 each; 2 brick dwellings Virginia Ave.; cost \$7000 each.

Ga., Atlanta.—Earl Cox is having plans prepared by Morris & Morris, 525 Atlanta National Bank Bldg., for bungalow; stone and frame; brick foundation; composition shingle roof; hardwood floors; furnace heat; tile porch and bathroom floors; composition shingles and stucco.

Ga., Blue Ridge.—William Butt is having plans prepared by Morris & Morris, 525 Atlanta National Bank Bldg., Atlanta, for dwelling; frame; brick foundation; tile bathrooms.

Ga., Carrollton.—B. M. Long is having plans prepared by Morris & Morris, 525 Atlanta National Bank Bldg., Atlanta, for dwelling; frame; stone trimmings; brick foundation; hardwood floors; brick, tile and wood mantels; porcelain bathtubs; tile bathroom floors; steam heat; laundry tubs.

Ga., Carrollton.—B. N. Barnes will erect residence Upper High St.

Ga., Carrollton.—James Gayle will erect residence Upper High St.

Ga., Carrollton.—J. B. Adkinson of Adkinson Bros. Co. will erect residence High St. between 5th and 6th Sts.

Ga., Carrollton.—W. N. Winn and Scott Bros. reported to erect store and 3 dwellings.

Ga., Carrollton.—J. E. Robertson reported to erect residence Winslow division.

Ky., Louisville.—S. L. Dorsey will erect 2 frame cottages 3003 and 3023 Virginia Ave.; cost \$2400.

Ky., Louisville.—J. W. Tipton will erect brick-veneer dwelling 1917 Deer Park Ave.; cost \$3800.

Ky., Louisville.—W. S. Helm will erect brick dwelling 1469 S. 2d St.; cost \$5000.

Ky., Louisville.—Robt. Thomas will erect brick dwelling 2021 Baringer Ave.; cost \$4700.

La., Lake Charles.—Leon Locke has plans by I. C. Carter for residence; 30x40 ft.; 2 stories; brick; cost \$5000; bids opened Sept. 22. (Lately noted.)

La., New Orleans.—H. J. Davis will erect \$4000 residence Gentilly Rd.

Md., Baltimore.—Isaac N. Cooper, 2303 Eutaw Pl., will erect 15 dwellings Brighton St. near 9th St.; 14x52 feet; 2 stories; cost \$30,000.

Md., Baltimore.—James Keely, Ashburton and Edmondson Aves., will erect 55 dwellings Poplar Grove Ave. near Riggs Ave.; 2 stories; W. H. Gerwig, Archt., 1928 N. Fulton Ave., Baltimore.

Md., Baltimore.—Frank Novak, 744 N. Kenwood Ave., will erect 10 dwellings 2612-20 and 2613-21 Ashland Ave.; 2 stories; 13x50 ft.; cost \$10,000.

Md., Baltimore.—Jos. L. White Realty Co., 2299 E. Monument St., has plans by C. C. Broring, 9 N. Potomac St., for 18 dwellings 2900 block E. Monument St.; 2 stories; brick; 14x17 ft.; cost \$22,000.

Md., Baltimore.—Jos. F. Hirt, 744 Kenwood Ave., will erect 15 dwellings for Peter Grogan estate 2500-2528 E. Preston St.; 2 stories; 14x44 ft.; cost \$19,200.

Md., Baltimore.—Daniel C. Ammidon, 1212 St. Paul st., will erect residence Guilford.

Md., Baltimore.—Land Improvement Co. will erect two 2½-story dwellings Cronia Park; H. J. Tinley, Archt., 312 N. Charles St., Baltimore.

Md., Easton.—New Building and Loan Association will erect residence and steam bakery for Herbert Cox; construction under supervision James B. Clark; is having plans prepared for 3 additional dwellings. (Lately noted.)



Md., Roland Park.—H. M. Wagner, 1809 Bolton St., Baltimore, has plans by Haskell & Barnes, 301 N. Charles St., Baltimore, for residence Hawthorn and Upland Bds.; 2½ stories; stone and frame; 57x33 ft.; hot-water heat; slate roof; electric lights; hardwood floors; cost \$15,000; bids received until Sept. 25. (Previously noted.)

Mo., Kansas City.—Marion M. Stone will erect California bungalows 36th and Genesee Sts.

Mo., St. Louis.—Otto Leitner will erect 2-story dwelling 4039 Magnolia Pl.; cost \$4400.

Mo., St. Louis.—W. D. Walsh will erect 2-story dwelling 5928 De Giverville St.; cost \$4500.

Mo., St. Louis.—Wm. Heper will erect residence Kossuth Ave.

Mo., St. Louis.—E. L. Hartrich will erect 2-story dwelling 5924 De Giverville St.; cost \$4000.

Mo., St. Louis.—Walter S. Brinhurst will erect residence Bryn Mawr.

Mo., St. Louis.—Wm. J. Moxey will erect 2 one-story dwellings 42904-42911 Maffitt St.; cost \$3600.

Mo., St. Louis.—Fred Moll will erect brick bungalow; cost \$4900.

Mo., St. Louis.—Bush-Burns Realty Co. will erect 3 dwellings McPherson Ave.

Mo., St. Louis.—R. C. Buchanan will erect 2-story dwelling 1405 Sulphur St.; cost \$3200.

Mo., St. Louis.—Frank Barnett prepared plans for 9 bungalows on McCausland Ave.; brick and stucco; 7 rooms; inglenook with glazed brick floor; French casement windows; terraced lawn enclosed with rubble stone wall 2 ft. 4 in.; pergola 21x12 ft., covered with wire glass; cost \$50,000.

Mo., St. Louis.—Kilgen-Rule Real Estate Co. has plans by Preston J. Bradshaw, St. Louis, for 10 bungalows Cates Ave.; 7 rooms and tiled bath; sleeping porches; front porches 30x7 ft. with granite floors and stone copings; brick, stone or pebble dash concrete construction; hot water heat; hardwood floors and finish; cost \$75,000.

N. C., Greensboro.—Mrs. H. B. Tatum will erect 9-room residence Schenck St.; cost \$6000.

N. C., Raleigh.—A. F. Guirkin, 324 S. Boylan Ave., will expend \$3000 to \$5000 each to erect several dwellings lately noted; 7 to 10 rooms; mill construction; steam heat; electric lighting; slate roof; plans and construction by owner. (See Machinery Wanted.)

N. C., Winston-Salem.—J. W. Jones will erect 9-room residence.

Okl., Tulsa.—S. Gallais will erect 6 double brick dwellings. (See Apartment-houses.)

Okl., Tulsa.—C. A. Sanderson, Secy. of Commercial Club, is reported as interested in organizing Tulsa Investment Co. to erect several hundred dwellings; ultimate plans include erection of 500 structures.

S. C., Greenville.—Westervelt Mills will build 15 to 20 cottages for operatives; 4 to 6 rooms each. (Lately noted.)

Tenn., Memphis.—John R. Klyce will expend \$3000 each to erect 2 6-room dwellings; hot-air heat; slate roof; construction by owner. (Lately noted.)

Tenn., Nashville.—G. O. Kane will erect frame building 1204 Eastland St.; cost \$3000.

Tenn., Nashville.—Chas. Sharpe will erect 3 frame buildings Woodland St.; cost \$5000.

Tex., Houston.—A. Jones will erect 10-room residence and barn Pierce Ave.; cost \$3550.

Tex., Rosebud.—W. L. Warrock has plans by Birch D. Easterwood, Waco, Tex., for 2-story 8-room dwelling; frame; shingle roof; cost \$5000; bids opened about Sept. 25.

Tex., Houston.—Wm. A. Wilson Co. will erect 8-room dwelling Alabama St.; cost \$3750.

Tex., San Antonio.—Dr. P. I. Nion will erect 2-story dwelling Washington Pl.; cost \$5300.

Tex., San Antonio.—Guy S. Combs will erect 2-story brick dwelling Queensboro Ct.; cost \$12,000.

Tex., Waco.—Church of Assumption, Rev. Dean E. A. Kelly, pastor, will erect parochial residence.

Va., Roanoke.—Fidelity Realty Corp. will erect two 2-story frame dwellings 3d Ave. N. W.; cost \$3600.

W. Va., Huntington.—G. F. Van Fleet will erect residence 6th Ave. near 4th St.

W. Va., Huntington.—M. P. Wiswell will erect brick dwelling 5th St.

## GOVERNMENT AND STATE

Ala., Mount Meigs-Reformatory.—Trustees Mount Meigs Reformatory will erect dining-room and kitchen, etc.

D. C., Washington.—German Embassy.—German Embassy, Berlin, accepted plans by Bruno Moehring, Berlin, for building 8 St.

between 22d and 23d Sts.; cost of building alone \$500,000; local headquarters, 1435 Massachusetts Ave. N. W.

Ga., Atlanta—Postoffice.—Treasury Dept., Oscar Wenderoth, Super. Archt., Washington, will remodel fifth floor postoffice building; \$42,000 available.

Ky., Bardstown.—Postoffice.—Treasury Dept., Oscar Wenderoth, Supervising Archt., Washington, D. C., opened bids to erect postoffice building; Wise Granite Co., Richmond, Va., is lowest bidder at \$61,180 for limestone and \$63,400 for sandstone construction. (Lately noted.)

Ky., Lakeland.—Hospital.—Central State Hospital is making temporary repairs to building; later will rebuild boiler-room; Dr. W. E. Gardner, Supt. State Board of Control, Frankfort, Ky., (Lately reported burned.)

La., New Orleans—Sanitarium.—State Bd. of Health, Dr. W. M. Perkins, Pres., and Secy., plans sanitarium for tubercular patients; has \$10,000 appropriation.

N. C., Hendersonville.—Postoffice.—Treasury Dept., office Oscar Wenderoth, Super. Archt., Washington, D. C.—Bids opened Nov. 15 to construct (including mechanical equipment, interior lighting fixtures and approaches) United States Postoffice; 2 stories and basement; ground area 4400 sq. ft.; fireproof construction, except ceiling and roof; stone, brick and terra-cotta; composition roof; drawings and specifications obtainable from custodian at site and at this office at discretion of supervising architect, and will be ready for delivery about Oct. 1.

Tex., Galveston.—Postoffice.—Guaranty State Bank will erect building and lease portion for postoffice. (See Bank and Office.)

## HOTELS

Ark., Wynne.—J. F. Benson and others open bids in about 30 days to erect hotel and store building; 96x36 ft.; steam heat; electric lighting; roofing not determined; cost \$20,000. (Lately noted.)

Fla., Fort Myers.—Mrs. M. F. Hill reported to erect hotel to replace Hill House; 3 stories; brick.

Fla., Miami.—Geo. D. Smith is negotiating with Atlantic City capitalists to erect hotel.

Fla., Wauchula.—W. W. Bateman will erect 22-room hotel Palmetto Ave.

Md., Berlin.—Park Hotel, T. T. Savage, Prop., contemplates rebuilding hotel. (Lately reported burned.)

Miss., Clarksdale.—Alcazar Hotel has plans by C. O. Pfeil, Memphis, Tenn., for annex to hotel; reinforced concrete and tile; 3 or 4 stories; 10x10 ft.; cost \$80,000; bids opened Sept. 25.

N. C., Blowing Rock.—Blowing Rock Development Co., \$120,000 capital, Inc., by J. W. Cannon, Concord; J. A. Durham, Charlotte; E. F. Steele, Statesville, and others; acquired Green Park Hotel and 300 to 400 acres adjoining; will improve and furnish hotel, etc.

N. C., Southern Pines.—W. E. Youland and others interested in erecting hotel; 100 rooms; 50 to 75 rooms with baths.

S. C., Chick Springs.—J. Thomas Arnold and associates open bids Oct. 15 to erect hotel; 100 rooms; ordinary construction; steam heat; gravel roof; cost \$50,000; cost of elevator \$2500; plans by J. E. Strine, Greenville, S. C. (Previously noted.)

S. C., Georgetown.—Company is being organized with H. Schenk, Pres.; J. H. Steele, V.P.; E. V. Emerson, Secy.—Trans., to erect hotel. (Chamber of Commerce previously noted promoting erection of hotel.)

Tenn., New Market.—G. W. Long opens bids Oct. 1 through W. H. Gildard, Archt., 502 Hanover Bldg., Knoxville, Tenn., to erect hotel; 50x70 ft.; mill construction; gravel roof; cost \$8000; cost of heating plant \$1000. (Lately noted.)

## MISCELLANEOUS

Ala., Gadsden.—Pavilion.—Gadsden, Bellevue & Lookout Mountain Ry. Co. will expend \$5000 to erect dancing and skating pavilion; 50x120 ft.; mill construction; electric lighting; creosoted shingle roof; day labor. (Lately noted.)

Fla., Kissimmee.—Hospital.—Dr. C. L. Hyatt is promoting erection of hospital.

Fla., West Palm Beach.—Home.—Mrs. Andrew Scott, N. Main St., Freeport, L. I., N. Y., will erect home for aged at Sherman's Point.

Fla., Kissimmee.—Clubhouse.—Country Club, John D. Clark, Temp. Secy., has plans for clubhouse; cost \$25,000.

Ga., Jackson.—Home.—Larkin Watson Chapter, Daughters of the Confederacy, will erect old woman's home.

Ky., Louisville.—Sanatorium.—Association Sanatorium will conduct campaign Sept. 23 to Oct. 18 for \$50,000 to rebuild tuberculosis hospital; accommodations for 100 patients.

Md., Baltimore.—Parish house.—St. Mark's P. E. Church, Rev. O. W. Zeigler, rector, 864 W. Lombard St., will remodel residence for parish house. (See Churches.)

Mo., Hollister.—Clubhouse.—White River Club (Roy Cox and Lewis Luster reported interested) is having plans prepared for clubhouse; cost \$25,000.

Mo., Kansas City.—Hospital.—Christian Church Hospital Assn., J. W. Perry, Pres., has plans by Henry F. Holt, Kansas City, for hospital Paseo, between 26th and 27th Sts. (Previously noted.)

N. C., Charlotte.—Home.—Trustees Old Ladies' Home open bids Oct. 1 to remodel home; 2 stories; 48x60 ft.; frame; steam heat; slate roof; cost \$8000; plans by Curtis A. Mees. (Lately noted.)

N. C., Concord.—Drs. J. W. Wallace, P. R. McPayden and J. A. Patterson are organizing company to establish hospital; acquired Archey Bldg. and will remodel.

Tex., San Antonio.—Home.—Rev. E. H. Lampkins is promoting erection of Old People's Relief Home for Negroes; cost, including site, \$25,000.

Va., Norfolk.—Shed.—Norfolk Warehouse Assn. will erect 1-story frame shed; cost \$3000.

## RAILWAY STATIONS, SHEDS, ETC.

Ark., Batesville.—St. Louis, Iron Mountain & Southern Railway Co., C. E. Smith, Asst. Ch. Engr., St. Louis, has plans by E. M. Tucker for passenger station; 24x147 ft.; ordinary construction; tile roof.

Fla., Auburndale.—State Railroad Comms. directed Atlantic Coast Line Ry. Co., E. B. Pleasant, Ch. Engr., Wilmington, N. C., to erect passenger station and enlarge freight station by Dec. 15.

Fla., Valrico.—Seaboard Air Line Ry. Co., W. D. Faucette, Ch. Engr., Portsmouth, Va., will, it is reported, erect depot.

Fla., Wauchula.—Charlotte Harbor & Northern Ry., L. M. Fouts, Gen. Mgr., Boca Grande, Fla., will erect depot.

Ga., Gainesville.—Gainesville Midland Ry., W. R. Beaupre, Gen. Mgr., plans to erect depot, etc.

Okl., Tulsa.—St. Louis & San Francisco R. R. Co., V. K. Hendricks, Engr., Springfield, Mo., will expend \$50,000 to erect 2-story freighthouse 2 blocks long; \$40,000 to erect express building, and \$10,000 for additions and improvements to passenger station. (Lately noted.)

S. C., Union.—Union & Glenn Springs R. R., W. F. Arthur, Gen. Mgr., will erect freight depot.

Tenn., Nashville.—Cumberland Valley Interurban Ry. Co. does not contemplate erection of buildings. (Lately noted as to establish 3 stations vicinity of the Hermitage.)

## SCHOOLS

Fla., Palatka.—Palatka Sub-school Dist. voted \$75,000 bonds for school. Address Dist. School Trustees.

Fla., Wauchula.—City voted \$25,000 bonds for schools. Address The Mayor.

Ga., Norwood.—Norwood School Dist. votes Sept. 30 on \$2000 bonds for school improvements. Address Dist. School Trustees.

Ga., Toccoa Falls.—Toccoa Falls Institute is having plans prepared by Morris & Morris, 555 Atlanta National Bank Bldg., Atlanta, for administration building, dormitory buildings and president's cottage; steam heat.

Md., College Park.—Flournoy Bros., Archts., 701 Wilkins Bldg., Washington, D. C., will have plans ready about Oct. 1 for dormitory for Maryland Agricultural College; plans obtainable from Herschel Ford on deposit of \$50. (Lately described.)

Md., Towson.—Maryland State Normal School Bldg. Comm., J. Chas. Linthicum, Chmn., 217 St. Paul St., Baltimore, receives bids through Parker, Thomas & Rice, Archts., Union Trust Bldg., Baltimore, to grade site and erect administration building for Maryland State Normal School, near Towson; plans and specifications at office architects. bids received Oct. 2. (Previously noted.)

Mo., Columbia.—Christian College, Laella St. Clair Moss, Pres., considering erection of economics building and girls' dormitory.

Mo., Joplin.—Mrs. Lulu Taylor, 315 Moffett Ave., has plans for building 4th St. and Virginia Ave.; 3 stories; fireproof; 50x120 ft.; lower floor for stores and office; upper floors for Taylor Business College; cost \$25,000.

N. C., Newbern.—School Comms. of Township No. 7 will erect central school at Thurman.

Okl., Norman.—State Board Public Affairs receives bids until Sept. 27 to repair State University; plans and specifications at office Layton & Smith, Archts., Oklahoma City; S. D. Brooks, Pres., State University, Norman, and office of board, Mercantile Bldg., Oklahoma City.

Okl., Paul's Valley.—State Board of Affairs, Oklahoma City, will erect dormitory, administration and other buildings at training school for boys, for which Legislature appropriated \$100,000.

S. C., Gray Court.—Gray Court School Dist. voted \$7000 bonds to erect school; construction in spring 1914. Address Dist. School Trustees.

Tex., Fort Worth.—Polytechnic College, Dr. Hiram A. Boaz, Pres., will inaugurate campaign for \$100,000 to convert building into woman's college.

Tex., Marshall.—Baptist Educational Bd., Waco, Tex., will erect college; cost \$40,000; also erect 2 dormitories to cost \$25,000 each; proposals may be addressed to A. J. Barton, Waco.

Tex., Ore City.—School Board, W. O. Stamps, Pres., will erect \$7500 school; 48x74 ft.; jacketed stoves; pitch and gravel roof; plans by Walter E. Taylor, Box 633, Fort Worth. (Lately noted to receive bids until Sept. 22.)

Tex., Rosebud.—St. Rosa parish, O. W. Smith and others, trustees, plans to erect academy. (See Churches.)

Va., Newport News.—Special Bldg. Com. of School Board, W. L. Tabb, Clerk, receives bids until Oct. 6 to erect John W. Daniel School; plans and specifications at office of Mr. Tabb at Newport News and Chas. M. Robinson, Archt., Times-Dispatch Bldg., Richmond. (Previously noted.)

## STORES

Ala., Gadsden.—A. D. Simpson, Archt., is preparing plans for number of buildings.

Ala., Greenville.—W. Shanks will erect 2-story brick store.

Ark., Bentonville.—C. R. Craig will erect store building 12th St., to be occupied by Strode-Long Mercantile Co.

Ark., Clarksburg.—Dr. J. S. Kolb will erect building to be occupied by Fred Rabder and P. A. Fredburg; brick; 20x70 ft.

D. C., Washington.—B. Stanley Simmons, 1310 New York Ave. N. W., is preparing plans for additional story to National Five and Ten Cent Store, M St. between 31st and Wisconsin Aves.; 20x120 ft.; freight elevator.

Fla., Apopka.—Ernest Leiding contemplates building store and apartment building. (See Apartments.)

Fla., Gary.—Stalnaker Bros. will, it is reported, erect building.

Fla., Lakeland.—D. B. Dixon will erect \$11,000 store; 40x122 ft.; 2 stories; ordinary construction; electric lighting; composition roof; plans by W. B. Talley, Jacksonville; bids opened Sept. 26. (Lately noted.)

Ga., Atlanta.—F. M. Stocks reported to erect building Walter St.; 3 stories and basement; concrete; fireproof; site 20x150 ft.; cost \$125,000 to \$150,000.

Ga., Atlanta.—J. R. Smith will erect building Whitehall St.; 3 stories and basement; additional story later; press brick; hardwood floors; cost \$40,000 to \$50,000.

Ga., Atlanta.—W. M. Crumley will erect additional stories to building, making structure 5 stories; cost \$20,000; Donaldson & Pierson, Archts., Atlanta.

Ga., Carrollton.—W. N. Winn and Scott Bros. reported to erect store and 3 dwellings.

Ky., Louisville.—Dr. Ed. Grant will alter building 123 E. College St.; cost \$3000.

Md., Baltimore.—Purnell Art Co., 309 N. Charles St., will remodel store; 25x80 ft.; 3 stories; steam heat; electric lighting; hydraulic elevator.

Md., Baltimore.—Armstrong Thomas, 904-905 Maryland Trust Bldg., will erect 2-story arcade building 21 W. 23th St.; cost \$5000.

Miss., Charleston.—Tallahatchie Home Bank will erect store, bank and office building. (See Bank and Office.)

Mo., Joplin.—Mrs. Lulu Taylor, 315 Moffett Ave., will erect store, school and office building. (See Schools.)

Mo., St. Louis.—George T. Burdett, Pres., Burdett Realty Co., will erect building for lease to Universal Film & Supply Co., 804 Pine St.; 1 and 2 stories; fireproof.

Mo., St. Louis.—Burdett Real Estate Co. will erect mercantile building Locust St.

N. C., Charlotte.—L. L. and J. P. Hackney will erect store building; 46x80 ft.; ordinary construction; steam heat; electric lighting; composition roof; cost \$15,000 to \$18,000; plans by Louis H. Ashbury.

N. C., Charlotte.—Mutual Trust Co. reported to erect stores on East Trade St.

S. C., Charleston.—Charleston Engineering & Contracting Co. will repair Arcade Bldg., 304 N. King St.; cost \$3500.

Tenn., Nashville.—Frank Hall will erect brick building 1303 18th Ave.; cost \$4000.

Tex., Dallas.—Crawford Undertaking Co.

has plans by McKissack & McKissack for building at Good and Montezuma Sts.; gravel roof; plate-glass front.

Tex., Dallas.—Mrs. Anna Moser has plans by Wm. E. Bieharz for building Harwood St. between Bryan and Live Oak Sts.; 100x189 ft.; 3 stories; lower floor for store; upper floors for 72-room bachelor apartment-house; cost about \$60,000. (Lately noted to erect building 411 Harwood St.)

Tex., Dallas.—J. H. Turner, Henderson, Tex., will rebuild structure 402-08 S. Lamar St., reported burned at loss of \$20,000, occupied by Dallas Wholesale Grocery Co.

Tex., Giddings.—Cowden Grocery Co., Flatonia, Tex., will erect brick building.

Tex., Pearsall.—J. C. B. Harkness will repair building occupied by H. A. Mercer Drug Co. (Lately reported burned.)

Tex., Texas City.—F. A. Gough will erect building for store and apartments 5th Ave.; 2 stories; brick; cost \$20,000.

Va., Norfolk.—Mowry & Smith reported to erect building Granby and Queen Sts.; plans probably include 5 stores, automobile display and salesrooms.

W. Va., Wheeling.—L. S. Good Co. is reported as to erect business block 1136 Main St.

### THEATERS

D. C., Washington.—B. F. Meyers, Bond Bldg., is preparing plans for theater North Capitol St.; 100x250 ft.; to seat 500; cost \$15,000; will be conducted by Home Amusement Co.

Fla., Pensacola.—Favrot & Livaudais, Architects, 505 Perrin Bldg., New Orleans, La., will receive bids for Nat Kaiser and M. J. Elkan, owners, and Herman Fitchberg,

tenant, to erect 2-story moving-picture theater; plans and specifications at office of Architects.

Miss., Biloxi.—J. P. and C. B. King, Biloxi and Mobile, Ala., will erect building to replace Bijou Theater; brick or stucco front; metal roof and sides.

N. C., Raleigh.—S. A. Schloss, Wilmington, N. C., will erect theater; cost not less than \$65,000.

### WAREHOUSES

Ga., Columbus.—Swift Mfg. Co. will not erect warehouse as lately reported.

Mo., St. Louis.—Terminal R. R. Assn. will alter warehouse 315-29 S. 18th St.; cost \$4000.

Mo., St. Louis.—St. Louis Hide & Tallow Co. will erect warehouse 5133 N. 2d St.; 2 stories; cost \$8000.

N. C., Gastonia.—People's Bonded Warehouse & Storage Co., \$125,000 capital, incptd. by Andrew E. Moore, D. M. Jones, A. G. Myers and others; will erect warehouse; 150x100 ft.; 2 stories; fireproof; sprinkler system; capacity 6000 bales cotton; cost at least \$10,000.

S. C., Anderson.—Farmers' Warehouse Co., capital \$10,000, incptd. by F. L. Brown, L. N. Geer, J. F. Watson and W. A. Watson.

Tex., Beaumont.—E. P. Kelley of Standard Warehouse will erect additional warehouse Main St.; brick and concrete; fireproof; cost \$60,000.

Tex., Laredo.—Consumers' Ice & Fuel Co. will erect ice-storage house; bids received until Sept. 25.

W. Va., Huntington.—Farmers & Shippers' Leaf Tobacco Warehouse Co., capital \$10,000, incptd. by B. M. Baker, J. W. Hagen, Jr., L. L. McClure and others.

## BUILDING CONTRACTS AWARDED

### APARTMENT-HOUSES

Mo., St. Louis.—Geo. Neff let contract to erect 4-family tenement-house; 3 rooms and bath each; cost \$5500. (Lately noted.)

Mo., St. Louis.—Lindell Fair Ground Realty & Investment Co., 702 Chestnut St., has plans by and let contract E. Orsler to erect two 2-story tenement-houses; ordinary brick construction; hot-air furnaces; gas and electric lighting; composition roof; cost \$4650 each. (Lately noted.)

Tenn., Knoxville.—W. H. Sterchi will erect apartment-house Fourth Ave. and Deery St.; 45x65 ft.; 3 stories and basement; ordinary construction; steam heat; gas and electric lighting; hand-power elevator; gravel roof; cost \$14,000; plans by Baumann Bros., Knoxville; contract let Thomas & Turner, Knoxville.

### ASSOCIATION AND FRATERNAL

Tex., Decatur.—Ancient Free and Accepted Masons let contract R. M. Van Horn, Fort Worth, to erect building; 75x80 ft.; 2 stories; bankroom and 2 stores first floor; 6 offices and lodgeroom second floor; brick; forced brick front; gravel roof; cost \$15,000; plans by Field & Clarkson, Fort Worth. (Lately noted.)

### BANK AND OFFICE

Okl., Tulsa.—R. T. Daniel let contract Horn & Son, Tulsa, to erect office building 3d and Boston Sts.; 350 offices; steel and reinforced concrete; faced with terra-cotta; 19 stories, 50x100 ft., and 3-story annex 75x100 ft.; also let contract to erect 2-story building 3d and Detroit Sts.; 140x100 ft. (Lately noted.)

Tenn., Maryville.—Bank of Maryville let contract L. A. Galyon, Knoxville, to erect bank and office building; 25x98 ft.; 2 stories and basement; ordinary construction; steam heat; electric lighting; gravel roof; cost \$15,000; let contract to Teuton Construction Co. for marble work and to Thomas Sams Co. for plumbing and steam heat; plans by Baumann Bros., Knoxville. (Lately noted.)

Tex., Decatur.—Ancient Free and Accepted Masons let contract erect bank, office, store and lodge building. (See Association and Fraternal.)

### CHURCHES

La., New Orleans.—Christian Science Church let contract Julius Koch, New Orleans, to erect building; pressed brick; stone and terra-cotta trimmings; marble columns; balcony in rear; seating capacity 750; hot-air heat; 90x80 ft.; cost \$42,000; Sam Stone, Jr., Archt., New Orleans. (Lately noted.)

Tex., Gonzales.—First Baptist Church let contract to erect addition; cost several thousand dollars. Address The Pastor.

Tex., Hondo.—Methodist church let contract at \$6040 to Mr. Tweedy, Aransas Pass,

Tex., to erect annex; brick; metal ceiling; metal tile roof; J. M. Hyde, Archt., Box 214, Brenham, Tex. (Previously noted.)

Va., Avalon.—Corinth Methodist Episcopal Church South, Rev. J. E. Hearn, pastor, Heathsville, Va., let contract Williams & Boothe, Heathsville, erect building lately noted; ordinary frame construction; tin roof; cost \$3000; plans by J. D. Hosier, Irvington, Va. (See Machinery Wanted.)

### CITY AND COUNTY

Ala., Carrollton.—Jail.—Pickens County Commrs. let contract for cell work to Pauly Jail Building Co., St. Louis, and to Kidder & Lessey, Columbus, Miss., for heating and plumbing; general contract lately noted let Little-Clecker Construction Co., Anniston, Alabama.

Ky., Pikeville.—Jail.—Pike County Commrs. let contract W. T. Currutt erect jail; contract for cells let Van Dorn Iron Works, Cleveland; heating and plumbing contract let about Oct. 7; plans by W. H. Smith, Huntington, W. Va. (Lately noted to cost \$25,000.)

N. C., Mocksville.—Home.—Davis county will expend \$12,000 to \$15,000 to erect home for aged and infirm; 106x48 ft.; brick walls; wood partitions; metal roof; heating and lighting not determined; plans by W. C. Northrup; contract lately noted let D. K. Cecil.

Okl., Tulsa.—Convention Hall.—City let contract Thomas O'Keefe, Oklahoma City, erect convention hall; 130x160 ft.; fireproof construction; gravity steam heat; electric lighting; cost \$90,000; plans by Rose & Peterson, Barker Bldg., Kansas City, Kan. (Lately noted.)

Tex., Clarksville.—City Hall.—City let contract J. L. Goodman to erect city hall and fire station; 2 stories; dry pressed brick; reinforced concrete foundation; 42x50 ft.; cost \$3800; Sparger & Peters, Architects., Bonham. (Lately noted.)

Tex., Dallas.—Jail, etc.—Dallas County Commrs. will expend \$447,703 to erect criminal courts and jail building lately noted; 115x90 ft.; fireproof; reinforced skeleton; washed air ventilation and vacuum system of heating, both to cost about \$60,000, and bids received about Oct. 15; passenger and freight elevators, sidewalk lift and dumb waiters; gravel roof; sub-contracts, steel cell work, plumbing and wiring; general contract let Crisman & Nesbit, Juanita Bldg.; cell work and electrical work lately noted let Pauly Jail Bldg. Co., St. Louis, and W. M. Clower, respectively; contracts for power plant and mechanical equipment probably awarded this fall; plans by Henry A. Overbeck, Juanita Bldg. (See Machinery Wanted.)

Tex., Dallas.—City Hall.—City let contracts as follows for city hall, for which Fred A. Jones Building Co., Dallas, has general con-

tract; heating and ventilating at \$31,441 to Kinnison Bros.; plumbing to T. H. Kilpatrick at \$29,887; opened bids for electric wiring and outfitting, elevators and sidewalk lifts and vacuum cleaning; lowest bidders, respectively, are: Electrical Contracting Co. at \$8250; Otis Elevator Co. at \$15,836; Texas Tucc Co. at \$925; plans by C. D. Hill & Co., Dallas; Mauran, Russel & Crowell, Consult. Archts., St. Louis. (Previously noted.)

W. Va., Huntington.—Fire Station.—City let contract V. E. Taylor, Huntington, erect fire station; 90x120 ft.; wood and stone; cost \$18,000; W. B. Smith, Archt., Huntington. (Lately noted.)

### COURTHOUSES

Tex., Dallas.—Dallas County Commrs. let contract Crisman & Nesbit, Juanita Bldg., erect criminal courts and jail building; lately noted. (See City and County and Machinery Wanted.)

### DWELLINGS

Ala., Anniston.—E. M. & W. D. Sellers have plans by and let contract J. W. McClurkin for 2 residences; 40x70 ft.; ordinary construction; hot-water heat; electric lighting; shingle roof; cost \$2500 each.

D. C., Washington.—Jos. C. Sheehy, Evans Bldg., will expend \$5000 erect dwelling; 28x36 ft.; frame; hot water heat; shingle roof; plans by Geo. P. Hales, 1406 G St. N. W.; contract lately noted let Wm. F. Harper, 1622 6th St. N. W.

Fla., Palatka.—Hamm, Davis & Warner closed contract to build 12 residences.

Ga., Albany.—A. W. Allison let contract Geo. Kilpatrick erect 2-story residence; 9 rooms; cost \$5000.

Ga., Atlanta.—W. A. Edwards, Candler Bldg., let contract F. B. Crowell, 1020 Fourth National Bank Bldg., to erect dwelling; 2 stories; frame; plastered exterior; steam heat; electric lighting; tile roof; cost \$7000; plans by owner. (Lately noted.)

Ga., Augusta.—Mrs. B. F. Brown, 721 Greene St., let contract H. S. Sikes erect dwelling; 3 stories; ordinary construction; electric lighting; tin-shingle roof; cost \$3000. (Lately noted.)

Ga., Gainesville.—W. H. Slack has plans by and let contract to John A. Pierce to erect 9-room residence; frame; galvanized tin shingle roof; cost \$5500. (Lately noted.)

Ky., Maysville.—W. Holton Key let contract Harding & Simons to erect bungalow; cost \$4000.

Md., Baltimore.—Edward Husted let contract Provident Realty Corp., Garrison and Piedmont Aves., Baltimore, to erect residence Beulah Villas; 2½ stories; frame; stone foundation; slate roof; John Freund, Jr., Archt., Hoffman Bldg., Baltimore. (Previously noted.)

Md., Baltimore.—Aubrey Pearre, 1601 Bolton St., has plans by W. L. Smith, Law Bldg., Baltimore, for residence Wilson Station; 2½ stories; brick; slate roof; stone foundation; steam heat; electric lights; tile work; G. W. Tovell, Eutaw and Dolphin Sts., Contr.

Md., Md. Washington.—Wilmer Black, 1208 Garrett Bldg., has plans by and let contract Hill Top Park Co., 717 Title Bldg., Baltimore, to erect 30x30-ft. slate roof dwelling. (Lately noted.)

Md., Roland Park.—G. Emory Morgan let contract Roland Park Co., Roland Park, to erect residence; 2½ stories; brick and stone; concrete foundation; slate roof; ordinary construction; hot-water heat; electric lights; 32x51 ft.; Edw. L. Palmer, Jr., Archt., 408 Roland Ave., Roland Park. (Lately noted.)

Mo., St. Louis.—Mrs. Pauline Robertson let contract Geo. L. Wageley to erect 6-room frame dwelling John Adams' subdivision; cost \$3780.

Tenn., Knoxville.—C. H. Swan let contract James Stair & Son remodel dwelling; ordinary construction; open grates; electric lighting; asphalt shingle roof; plans by Baumann Bros.

Tenn., Memphis.—Mrs. M. A. Fleming let contract B. W. Cooke to erect stone veneer dwelling 178 Overton Park Ave.; cost \$8000.

Tenn., Memphis.—R. H. Lanier let contract F. E. Meachem to erect stone veneer residence 48 S. Evergreen St.; cost \$6000.

Tenn., Memphis.—M. J. Anderson let contract A. F. Crispin erect 2-story 14-room brick and stucco residence Madison Ave. and East St.; cost \$5000.

Tenn., Memphis.—Cramer Sexton let contract F. C. Storey, Memphis, to erect residence 1431 Peabody Ave.; cost \$5000.

Tenn., Memphis.—Miss G. Michael let contract F. C. Storey, Memphis, to erect residence 51 S. Auburndale St.; cost \$4000.

Va., Norfolk.—R. H. Zack let contract F.

N. Hurley to erect frame dwelling 5th St. and Colonial Ave.; cost \$3200.

### GOVERNMENT AND STATE

Ala., Birmingham.—Postoffice Annex.—J. H. Woodward will finance erection of annex to postoffice building, for which Carroll-Blake Construction Co., 1617 American Trust Bldg., has contract; 1 story; 50x100 ft.; construction similar to present building; cost \$25,000; Wm. Leslie Welton, Archt., Birmingham. (Previously noted.)

Mo., Marshall.—Colony.—Board of Managers Missouri Colony for Feeble Minded and Epileptics let contract J. B. Evans Construction Co., Marshall, to erect 2 cottages; heating, plumbing and ventilating in contract; J. H. Felt & Co., Archts., Kansas City, Mo. (Lately noted.)

### HOTELS

Fla., Wauchula.—Sower & Johnson, Wauchula, have contract to erect 16-room hotel at Vandolah.

### MISCELLANEOUS

Mo., Kansas City.—Clubhouse.—The Athenaeum let contract Harvey Stiver to erect clubhouse 900-04 Linwood Blvd.; 2 stories; brick and stone; cost \$36,000; S. B. Tarbet & Co., Archts., Kansas City.

### RAILWAY STATIONS, SHEDS, ETC.

Mo., Kansas City.—Lawrence Bros. Painting Co., Kansas City, has contract for painting interior and exterior steel work, including train sheds at Union Station, for which Geo. A. Fuller Co., Fuller Bldg., New York, has general contract. (Previously noted.)

S. C., Spartanburg.—Southern Railway Co., B. Herman, Ch. Engr., 1300 Pennsylvania Ave., Washington, let contract Elliott Building Co., Hickory, N. C., erect 275-ft. extension to covered platform.

### SCHOOLS

Ark., Lowell.—City let contract C. E. Bentley, Rogers, Ark., to erect school; 2 stories; pressed brick; 28x62 ft.

Ky., Louisville.—Bd. of Education let contract at \$14,735 to Neville, Keller & Co., Louisville, for heating and ventilating plant at Albert S. Brandels School, 26th and Date Sts.; down-draft furnace, with automatic temperature regulator and air washer.

Mo., Ellington.—Bd. of Education let contract Eyssell Construction Co., St. Louis, to erect high school; 2 stories; brick; composition roof; cost \$14,000; H. H. Hohnschield, Archt., St. Louis. (Lately noted.)

N. C., Bonlee.—Joe W. Stout & Co., Sanford, N. C., reported to have contract to erect 2-story brick school; cost \$8000.

S. C., Anderson.—J. A. Brock, Chrm. Trustees, let contract Winder Lumber Co., Winder, Ga., at \$771, and to Mitchell Cox Lumber Co., Belton, S. C., at \$913, to erect 2 schools; 70x70 ft.; ordinary construction; steam heat; tin roof; plans by Sayre & Baldwin. (Lately noted.)

S. C., Greenville.—School Trustees let contract W. G. Davidson to erect Union school building W. Markley St.; 4 rooms and basement; frame; cost \$4500.

Tenn., Evansville.—Rhea County School Board will expend \$500 to erect school; 43x81 ft.; ordinary construction; hot-air heat; galvanized shingle roof; plans by W. A. Geasland, Rockwood, Tenn.; day labor. (Lately noted.)

Tex., Houston.—Wm. M. Rice Institute, Edgar Odell Lovett, Prest., let contracts as follows for work on physical laboratory; plumbing at \$12,228 to Keithly Co., Houston; heating at \$22,947 to F. E. Newberry Electric Co., St. Louis; electric work at \$25,373 to Hixon Electric Co., Boston. (Other contracts lately noted awarded.)

Tex., Jayton.—School trustees let contract at \$9014.80 to Jones Bros., Stamford, Tex., to erect school; 10 rooms; brick; Elmer G. Withers, Archt., Stamford. (Previously noted.)

Tex., Hartley.—Hartley School Dist. No. 1 let contract Chas. Casler, Amarillo, Tex., erect school; 2 stories and basement; brick; 60x70 ft.; metal roof; cost \$15,000; C. Risser, Archt., Amarillo. (Lately noted.)

Va., Richmond.—School Board let contract E. C. Woodward to erect annex Baker school; 12 rooms; ordinary construction; cost \$9000; plans by C. W. Robinson. (Lately noted.)

### STORES

Okl., Tulsa.—R. T. Daniel let contract to erect 2-story building 3d and Detroit Sts. (See Bank and Office.)

Tex., Decatur.—Ancient Free and Accepted Masons let contract erect store, bank, lodge and office building. (See Association and Fraternal.)



Tex., Waco.—W. R. Clifton let contract Gross Construction Co., Waco, to erect building for Behrens Drug Co., 4th and Mary sts.; 4 stories and basement; 106x120 ft.; fireproof; Milton W. Scott & Co., Archts., Waco. (Previously noted.)

W. Va., Parkersburg.—C. Z. Ruth will erect 8000 wholesale fruit and produce building; 45x100 ft.; gas heat; electric lighting; water-power freight elevator; slag roof; plans by H. H. Adair; contract lately noted let T. A. Black.

WAREHOUSES

Mo., Joplin.—F. A. Tonnies let contract Bane & Hoffman erect warehouse; 40x100 ft.;

1 story; fireproof; concrete composition roof; cost \$6000; plans by A. C. Michaelis. (Lately noted.)

S. C., Union.—Farmers' Warehouse, S. M. Rice, Mgr., will expend \$7500 to erect warehouse; 100x100 ft.; 4 compartments; double story; composition roof; plans and construction by owner. (Lately noted organized, \$10,000 capital.)

Tex., Galveston.—Walker-Smith Co. let contract D. A. Winters, Abilene, to erect warehouse; 3 stories; brick; 55x120 ft.; double decked; floor space 40,000 sq. ft.; fireproof; cost \$35,000 to \$38,000.

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Birmingham.—The Alabama Great Southern Railroad of the Queen & Crescent Route is quoted as announcing that \$150,000 of improvements will be made, including passing tracks at Montlake and Trussville, each nearly a mile long; another at High Point, 3700 ft., and another at Eutaw, 2127 ft. Horace Baker, Cincinnati, O., is general manager.

Ala., Brent.—J. F. Johnston, Tuscaloosa, Ala., and associates are reported as announcing that 10 mi. of rails have been bought, and that the Birmingham, Selma & Pensacola Ry., which is now 9 mi. long, from Brent to Harrisburg, will be extended from the latter point to Marion, Ala., and later to Selma. Mr. Johnston says that the line will be altogether 45 mi. long from Blocton to Selma. There are a few small bridges. Level country is traversed for 33 mi., the rest being rolling. J. F. Johnston & Co., Box 115, Tuscaloosa, Ala., are contractors.

Ala., Gadsden.—The Gadsden, Bellevue & Lookout Mountain Ry. has completed and put in operation its electric railway from Gadsden to Noccalula Falls, something more than 3 mi. An extension is expected. Loul Hart is manager.

Fla., Manatee.—The Miakka Land Co. is reported to have let contract to S. C. Mitchell, representing the Tampa Powder Co., to clear the right of way for its proposed railroad from Bradentown to Arcadia, 52 mi., general contract for which is let to A. W. Jones of Augustus, Ga.

Fla., Maytown.—The Florida East Coast Ry., now reported operating its Okeechobee line from Maytown to Kenaville, 72 mi., is pushing construction beyond there to Lake Okeechobee, and it is reported will further extend to Fort Pierce. J. R. Parrott is Pres., St. Augustine, Fla.

Fla., Morriston.—Edgar Chapman, says a report, has been given a contract to grade an extension for the Seaboard Air Line at Morriston. W. D. Fayette is Ch. Engr. at Portsmouth, Va.

Ga., Athens.—The Gainesville Midland Ry., says a local report, will ask the State R. R. Com. for authority to issue \$233,000 of first mortgage bonds and \$325,000 of 6 per cent. 2-year notes, the proceeds to be partly used to standard-gauge the line from Belmont Junction to Monroe. George J. Baldwin, Savannah, is Pres.

Ga., Tifton.—Preliminary survey is reported complete for the proposed Americus, Tifton & Atlantic Ry. H. H. Tift is chairman and I. W. Myers Pres. of the company at Tifton.

Ky., Boyd.—The Elkhorn & Arnolds Fork Ry. Co. of Boyd, capital \$5000, is chartered to build 20 mi. of line in Floyd and Knott counties; incorporators, John F. Hager, John S. Hager, James G. Serey, Charles Russell and H. B. Smith of Ashland, Ky.

Ky., Madisonville.—M. K. Gordon, James R. Nash and others, says a report, are promoting plan for an electric railway from Madisonville to Nortonville, 12 mi., and survey is being made by Clarence Nisbet. The Hopkins County Commercial Club of Madisonville is said to be interested. Another report says that James Breathitt of Hopkinsville, Ky., representing a New York banking house, proposes to the Madisonville Commercial Club to build the line.

Ky., Pineville.—Louisville & Nashville Railroad Co. denies recent press report that it would double-track its lines from Pineville to Corbin, Ky., 32 mi.

La., Jena.—The Louisiana & Arkansas Ry., says a report, has completed and put in operation its extension from Jena as far as Wildsville, connecting with the St. Louis, Iron Mountain & Southern R. R.

La., New Orleans.—The Texas Pacific Ry. is reported to have completed arrangements to issue bonds for its proposed new terminal station in New Orleans. Thomas J. Freeman is Pres. of the Trans-Mississippi

Terminal Co., which will build the station and yards. O. F. Barclay is resident engineer.

La., Rayville.—Duncan Buie of Richland is reported making survey for the proposed railroad from Rayville to Pioneer and Lake Providence, La., about 40 mi. George Wesley Smith of Rayville is Pres. and C. A. Smith of Rayville Secy. and Treas.

Md., Baltimore.—Maryland & Pennsylvania R. R. Co. is planning extensive improvements and intends to issue \$500,000 of 6 per cent. 10-year bonds. About \$300,000 of the issue are to be issued as soon as approved by the stockholders on Sept. 30. M. K. King, Baltimore, is second V.-P. in charge of operation.

Miss., Taylorsville.—C. F. Peterson, Pres. of Louisiana Interstate Mineral Co., says it will build a railroad reaching the Gulf & Ship Island R. R. near Taylorsville and the New Orleans, Mobile & Chicago R. R. near Bay Springs, and connecting a lime plant, stone and marble quarries, a coeprage plant and a water-power plant. The line may be 10 to 20 mi. long.

Miss., Natchez.—The city is reported to have granted additional right of way to the Mississippi Central R. R. through Duncan Memorial Park. R. K. Smith, Hattiesburg, Miss., is V.-P. and Gen. Mgr.

Okla., Oklahoma City.—The directors of the Oklahoma City Terminal Co. are reported to have notified the Missouri, Oklahoma & Gulf R. R., which proposes an extension from Henryetta to Oklahoma City, 105 mi., that unless satisfactory indications of construction work are manifested within a month the bonus of \$50,000 subscribed will be returned to the donors. J. J. Harrison, Muskogee, Okla., is Chief Engr. for the line.

Okla., Tecumseh.—The Rapid Transit Interurban Co. is reported to have made surveys from Tecumseh to Sulphur, 58 mi. J. J. Cissna of Tecumseh is Secy. Line will also connect Shawnee, Asher, Chism and Stratford.

S. C., Greenwood.—Southern Railway, it is reported, will construct a line soon from Greenwood to Batesburg, S. C., about 40 miles. W. H. Wells, Washington, D. C., is Chief Engr. of Construction.

Tenn., Franklin.—Middle Tennessee Traction Co. it is reported, now has a large force employed on grading between Franklin and Eagleville and 20 miles of grade are finished. P. E. Cox of Franklin and others are interested. It is proposed to continue the line to Shelbyville.

Tenn., Nashville.—H. H. Mayberry, Pres. of the Nashville & Gallatin Interurban Ry., is reported investigating for an extension from Gallatin, Tenn., to Bowling Green, Ky. Interested with him are F. E. Gardner of Franklin, Tenn.; N. S. Keith, Cincinnati, O. and W. H. Netherland, Louisville, Ky.

Tex., Dallas.—Charter is filed for the Dallas Southwestern Traction Co. to build a line from Dallas to Glen Rose, Tex., with a branch from Eagle Ford to Irving, about — mi. altogether. Capital \$500,000. Headquarters at Dallas. Incorporators, E. P. Turner of Dallas, Cullen F. Thomas, Sam P. Cochran, E. Strickland, Sam P. Morgan, B. M. Sansom of Alvarado and others.

Tex., Houston.—The Galveston-Houston Electric Co. will hold a stockholders' meeting Oct. 6 to issue \$1,000,000 each additional of common and preferred stock for extensions and improvements. Stone & Webster Engineering Corp., 147 Milk St., Boston, Mass., are engineers. They say work will extend over considerable time. Details not yet worked out.

Tex., Sweetwater.—M. J. Henly, V.-P. and Gen. Mgr., Gulf, Texas & New Mexico Ry., says he has an opening for someone to join him in a construction company for a railroad from the northeastern part of New Mexico through Western Texas and thence to Houston, bonuses being offered in land and cash, the idea being to build from 100 to 400 mi.

W. Va., Elkins.—The Limestone R. R. Co. will build 5 mi. of line from a connection with the Western Maryland Ry. at Ward Station to Brady via Chenoweth Creek, including 4 bridges. R. B. Cody, Pres. and Gen. Mgr.; E. M. Cody, V.-P., both of Buckhannon, W. Va.; J. H. Isherwood, Secy. and Treas., Elkins. Other directors are E. A. Cody and E. C. Isherwood.

W. Va., Fairmont.—Surveys are reported complete for the 3-mi. cutoff which the Baltimore & Ohio R. R. will build from Kingmont, on the Wheeling division, to Gaston Junction, on the Monongahela division. It will include a bridge 300 ft. long. Contracts are expected to be awarded soon. F. L. Stuart, Baltimore, is Chief Engr.

W. Va., Morgantown.—The Buckhannon & Northern Railroad Co. is reported asking bids until Oct. 6 for the construction of a 5-mi. extension from Catawba into Fairmont. Estimated cost about \$800,000. S. D. Brady, Morgantown is Ch. Engr.

W. Va., Parkersburg.—The Baltimore & Ohio R. R. Co. has applied to condemn two tracts of land on 4th St. for its proposed freight depot and improvements. F. L. Stuart, Baltimore, Md., is Gen. Mgr.

W. Va., Weston.—The Clarksburg & Weston extension of the Monongahela Valley Traction Co. has been completed, and it is announced that regular operation will begin Sept. 30, part of the line being now used.

STREET RAILWAYS

Ala., Girard.—The City Council of Girard proposes to make arrangements with the Columbus (Ga.) Power & Ry. Co. to extend its street railway in Girard.

Ark., Little Rock.—The Little Rock & Argenta Ry. Co. has been granted an extension of 3 years to begin construction of its line

from Argenta to Factoria. About 1 mi. of grading has been done. A. C. Read is Pres.

N. C., Newbern.—The Newbern-Ghent Street Ry. Co. is reported contemplating an extension. Fritz Sittlerding of Richmond, Va., is Pres.

Tenn., Nashville.—The Nashville Ry. Co. is expected to soon build an extension of its 1st Street line to Trinity La., about 1 mi., for which survey has been made.

Tex., Dallas.—The Dallas Consolidated Electric Street Ry. Co. has been directed by the Municipal Commrs. to double-track its line on Garrett Ave. between Bryan and Ross sts.

Tex., Dallas.—The Dallas Consolidated Electric R. R. Co. has applied to the City Com. for authority to build 14 switch tracks and one cross-over track from its line on Peak St. into the site for new shops at the corner of Elm St. E. T. Moore is Gen. Mgr.

Tex., San Antonio.—The San Antonio Traction Co. has applied for a franchise to construct a line on Commerce St. from the Alamo Plaza to the Military Plaza. E. E. Eysenbach is Gen. Mgr.

Tex., Sherman.—Construction is about to begin on an extension of the Sherman Electric Ry. to the Sanatorium. The extension is to be ready by Oct. 1.

Va., Richmond.—The South Richmond & Chesterfield Ry. Co. is expected to begin construction before winter, its proposed line being from the intersection of the Broad Rock and New Rds., out Broad Rock Rd. about 3 mi. to beyond Merkle's Mill, on Falling Creek, where a pleasure park will be established. John C. Robertson, W. J. Carter, James Cox, Clarence Vaden and others of Richmond are interested. Survey made by Col. C. P. E. Burgwyn, Engr.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Air Compressor.—Harvey Baker, Box 833, Richmond, Va.—Prices on 300-ft. air belt driven air compressor; state location first letter.

Air Compressor.—H. Tysinger, 306 Louisiana St., Little Rock, Ark.—Air compressor and 300 or 400-gal. air tank, capacity 150 lbs.

Automobile Tire Machinery.—Barbour Buggy Co., South Boston, Va.—Addresses of manufacturers of automobile tire machinery.

Baling Press.—Eagle Cordage Mills, Covington, Ky.—Power baling press; large size; new or second-hand.

Bank Fixtures.—Citizens' Bank, Caldwell, Ga.—Prices on safe, vault and other bank fixtures.

Bank Fixtures, etc.—Bank of Greensboro, Greensboro, Fla.—Prices on safe, vault and other bank fixtures.

Bottling Equipment, etc.—Lowell R. Galdry, New Orleans, La.—Prices on corks, labels, bottles, bottling and labeling machines, shipping cases and individual cartons.

Bricks.—Duval County Commrs., Frank Brown, Clk., Jacksonville, Fla.—Bids until Oct. 3 for furnishing 300,000 No. 2 vitrified paving bricks, delivered f. o. b. Jacksonville.

Bridge Construction.—Clerks' office, Highland county, Monterey, Va.—Bids until Oct. 7 to construct 2 steel bridges; plans and specifications at clerk's office and with P. St. J. Wilson, State Highway Commissioner, Richmond, Va., who will supply information.

Bridge Construction.—Caddo Parish Police Jury, J. T. Bullen, Parish Engr., Shreveport, La.—Bids until Oct. 9 to construct bridge across Caddo Lake; 7 pony truss steel spans; 6 spans, 79 ft. 4 1/2 in. and 1 span 92 ft., c/c. end bearings; 92-ft. span will be Waddell & Harrington vertical lift span, providing vertical clearance of 55 ft. above high water; substructure 8 piers, steel tubular piers filled with concrete and resting on timber piles; 16-ft. clear roadway; Waddell & Harrington, Consulting Engrs., 1012 Baltimore Ave., Kansas City, Mo.

Bridge Construction.—W. G. Sneed, Chrm. Stafford County Commrs., Stafford, Va., or C. F. Bailey, Chrm. Prince William County Commrs., Dumfries, Va.—Bids until Sept. 30 (extended date) to construct bridge across Chapawamsic Creek, on Telegraph Rd.

at Quantico, Va.; plans and specifications on file at courthouses Stafford and Manassas, Virginia.

Bridge Construction.—Loudoun county, Leesburg, Va.—Bids Oct. 1 to construct two bridges; one across Broad Run, 6 mi. from Peonian Springs, 88 ft. long, 12-ft. roadway, 4 Std. 20-ft. reinforced concrete spans; bridge over Beaver Dam, 3 mi. from Ashburn, 66 ft. long, 12-ft. roadway, reinforced concrete, 3 20-ft. 20-in. spans; concrete substructure; plans and specifications at offices of Clerk of Circuit Court and of P. St. J. Wilson, State Highway Commr., Richmond, Va.

Bridge Construction.—Hanover county, Hanover Court House, Va.—Bids Oct. 1 to construct reinforced concrete bridge across Stony Creek; length 44 ft.; 12-ft. roadway; concrete superstructure; plans and specifications at offices Clerk Circuit Court, Hanover, and P. St. J. Wilson, State Highway Commr., Richmond, Va.

Building Materials.—R. E. Gilmore, 610 N. Pearl St., Dallas, Tex.—Catalogues and prices on materials of interest to architects.

Building Materials, etc.—J. F. Townsend & Co., 14 Fitch & Gentry Bldg., Lakeland, Fla.—Architectural terra-cotta and white enameled brick for outside use; small quantity marble and granite; also correspondence with manufacturers of electric and hand-power elevators and with designers and installers of store fronts. Send catalogues promptly.

Cold-storage Machinery.—A. L. Mills and J. H. Williams, Greenville, S. C.—Addresses of manufacturers of cold-storage plants.

Curbing and Guttering.—See Sewers.

Drainage.—Rodman Lumber Co., H. S. Cummings, Pres., Rodman, Fla.—Bids for constructing 12 mi. drainage ditches requiring removal 55,000 cu. yds. earth.

Dredging.—U. S. Engineer Office, Room 309 Custom-house, Baltimore, Md.—Bids until Oct. 29 to dredge in Chesapeake Bay, York Spit section of channel leading to Baltimore harbor, Md. Information on application. Lansing H. Beach, Col. Engrs.

Dredgeboat, etc.—Contractors Sand, Gravel & Supply Co., T. P. Singletary, Pres., Baton Rouge, La.—Dredgeboat and centrifugal pump.

**Earthwork.**—Caddo Levee Board, Shreveport, La.—Bids until Oct. 1 at office Board State Engrs., 213 New Orleans Court Bldg., New Orleans, for earthwork; Bennett's Pass, excavation, 40,000 cu. yds.

**Electrical Equipment.**—See Heating and Power Plant Equipment.

**Electrical Machinery.**—See Machine Tools.

**Electrical Machinery.**—H. H. Gull, Box 833, Richmond, Va.—Prices on 25 or 30 H. P. 230-volt 3-phase 60-cycle motor, with pulley; send data first letter.

**Electrical Machinery.**—Ava Electric Light Co., L. H. Pettit, Mgr., Ava, Mo.—60 K. W. 230-volt 3-phase generator, transformers, wire, etc.

**Elevators.**—J. F. Townsend & Co., 14 Fitch & Gentry Bldg., Lakeland, Fla.—Correspondence with manufacturers of electric and hand-power elevators. (See Building Materials, etc.)

**Excelsior Machinery.**—J. E. Taylor, Quitman, Miss.—Addresses of manufacturers of excelsior machinery.

**Fire-alarm System.**—A. P. Jones, Supt., Opelousas, La.—Bids until Oct. 7 for fire-alarm system, including 20 boxes, 3 8-in. indicating bells, tower bell striker, 6 1/2 mi. wiring and necessary batteries and charging apparatus.

**Foundry Flasks.**—Thomas Grate Bar Co., 10th Ave. and 42d St., Birmingham, Ala.—Correspondence with manufacturers of steel foundry flasks.

**Gas-generating Machinery.**—L. L. Leeb, Hotel Fairfax, Norfolk, Va.—Gas-generating outfit, complete; first-class order; 2000 C. P. lights.

**Heating Plant.**—A. F. Gulrkin, 324 S. Boylan Ave., Raleigh, N. C.—Information as to heating for \$300 to \$500 dwellings.

**Heating and Power Plant Equipment.**—Board Public Buildings and Grounds, R. R. Lacy, State Treas., Raleigh, N. C.—Bids until Sept. 26 for installing central heat and power plant equipment for North Carolina State Capitol and adjacent buildings and grounds; plans and specifications at offices of Treas. and Wiley & Wilson, Consulting Engrs., Lynchburg, Va., and copies may be secured on application to engineers on deposit of \$10.

**Heating and Ventilating.**—H. A. Overlock, Junonia Bldg., Dallas, Tex.—Bids until about Oct. 15 on washed air ventilation and vacuum system of heating for Criminal courts and jail building, Dallas, Tex.

**Ice and Cold-storage Machinery.**—Somerset Ice Co., Somerset, Ky.—Prices on additional cold-storage and refrigerating plant.

**Ice Plant.**—Bureau of Yards and Docks, Navy Dept., Washington, D. C.—Bids until Nov. 1 for building for ice-making and storage plant, Pearl Harbor, Hawaii; estimated cost \$8000; plans and specifications on application to bureau, H. R. Stanford, chief, or to commandant of naval station, Honolulu.

**Incinerators.**—Mexico Brick & Fire-Clay Co., Mexico, Mo.—Correspondence with manufacturers of garbage incinerators.

**Iron Wheels.**—Sumter Broom and Handle Factory, Sumter, S. C.—Addresses of manufacturers of iron wheelbarrow wheels; located in vicinity preferred.

**Jetty Work.**—U. S. Engr. Office, Galveston, Tex.—Bids in duplicate until Oct. 22 for jetty work, Aransas Pass. Information on application. C. S. Riche, Lieut.-Col., Engrs.

**Lathe.**—Jos. L. Pearson, Keysville, Va.—Prices on patternmakers' lathe, 16 in. or larger; second-hand.

**Limekiln Machinery.**—Limestone R. R. Co., J. H. Isherwood, Secy., Elkins, W. Va.—Data and prices on equipment to manufacture limestone fertilizer.

**Lighting Plant.**—Corinth Methodist Episcopal Church, Rev. J. E. Hearn, Heathsville, Va.—Prices on light plant for \$3000 country church building.

**Locomotive.**—Mutual Equipment Co., Box 833, Richmond, Va.—Prices on new or second-hand 36-in. gauge gasoline or kerosene locomotive to haul 30-ton load up grade of 2 per cent.; must be able to make 19 mi. per hour and to negotiate curve of 35 degrees; send information, cuts, etc.

**Machine Tools.**—U. S. Asphalt Refining Co., West Bldg., 90 West St., New York.—Lathe, drill press, bench tools, motors, etc. Address local Mgr. John H. Zink, East Brooklyn, Baltimore, Md.

**Naval Supplies.**—Navy Department, Bureau Supplies and Accounts, J. T. Cowie, Paymaster-Gen., U. S. N., Washington, D. C.—Bids Oct. 7 for furnishing 46,500 lbs. hot-rolled or forged steel, schedule 5556; 44,800 lbs. ingot tin, schedule 5559; delivery Navy-

yard, Washington; miscellaneous lot spruce, Douglas fir or North Carolina pine planks and scantling, 7800 gals. Stockholm tar, schedule 5883; 450 gals. interior varnish, schedule 5852; delivery Navy-yard, Norfolk, Va.; for copies of schedules apply navy pay office nearest navy-yard.

**Naval Supplies.**—Navy Dept., Bureau of Supplies and Accounts, J. T. Cowie, Paymaster General, Washington, D. C.—Bids opened Oct. 14 to furnish at Navy-yard, Washington, quantity nickel-steel forgings, Sch. 5884; 18,000 ft. rough white pine, Sch. 5855, delivery Navy-yard, Charleston, S. C.; 100,000 bus. oyster shells, Sch. 5883, delivery Navy-yard, Annapolis; single and double eyepiece telescopes, 100 each, Sch. 5874, f. o. b. works. Bids opened Oct. 21 for motor-driven spiral disk grinder, Sch. 5857, delivery Norfolk, Va. Schedules on application to navy pay office nearest each navy-yard.

**Paving.**—Warwood, W. Va., Frank W. Klein, Recorder.—Bids until Sept. 30 to grade, curb and pave with brick on Main St., from 23d to 26th st.; also separate bids for grading and macadamizing with limestone on Main St. from south side of 26th St. north to city line.

**Paving.**—W. B. Moore, City Clerk, Miami, Fla.—Bids until Sept. 29 for grading, curbing and paving on 12th St. and Aves. B, C and D with cross-rotted wood blocks; also on 12th and 11th Sts. and Ave. C with asphaltic concrete; profiles, etc., and information at office of consulting engr.; separate bids for each improvement.

**Peanut Butter Machinery.**—Appalachian Products Co., 316 E. Depot St., Knoxville, Tenn.—Prices on peanut butter machinery.

**Piling, etc.**—Department Improving Southwest Pass, Mississippi River, U. S. Engr. Office, Edward H. Schulz, Maj., Engrs., 325 Custom-house, New Orleans.—Bids until Oct. 1 for furnishing piles and lumber on wharves in Southwest Pass, Mississippi River. Information on application.

**Pipe.**—P. O. Box 137, Fort Wayne, Ind.—About 2300 ft. second-hand 1 1/2-in. or 1 3/4-in. black pipe (for heating).

**Pulp and Paper Plant.**—American Wood Waste Co., 32 N. Clark St., Chicago.—Prices on machinery for pulp and paper mills and wood fiber plants.

**Pumps.**—See Dredgeboat, etc.

**Rails.**—L. F. Hobbs, Box 453, Norfolk, Va.—50 tons 60-lb. raylors, with spikes and bolts; immediate delivery f. o. b. Norfolk.

**Railroad Equipment.**—Limestone R. R. Co., J. H. Isherwood, Secy., Elkins, W. Va.—5 mi. 20 or 25-lb. relaying rail; 12 logging cars for 36-in. gauge track; locomotive, about 15 tons, for same track.

**Road Construction.**—State Roads Com., Wm. L. Marcy, Secy., 601 Garrett Bldg., Baltimore, Md.—Bids until Oct. 6 for building section State Highway along Liberty Heights Ave. from Garrison Ave. to city limits, about 15 mi.; sheet asphalt and vitrified brick.

**Road Construction, etc.**—City, S. J. Gainer, Mayor, St. Andrews, Fla.—Bids until Oct. 28 for following: 3 mi. shell road, including 3 bridges, right of way, clearing, grading and laying sewer drains; plans and specifications at City Engr's office; specifications from C. J. Satterfield.

**Road Construction.**—Board of Commrs. Duval county, Jacksonville, Fla.—Bids until Oct. 6 at courthouse for paving with shell Steele Ave. from E. Mayport to the beach; plans and specifications on file office of Frank Brown, clerk of board.

**Road Construction.**—Bell County Commrs., Belton, Tex.—Bids until Sept. 24 to construct 55 mi. public road in Precinct No. 1; local gravel; W. E. Hall, Auditor.

**Road Roller, etc.**—Isthmian Canal Com., F. C. Boggs, Maj., Gen. Purchasing Officer, Washington, D. C.—Bids until Oct. 10 for road rollers; galvanized roofing; galvanized sheet steel or iron; bronze bars; sheet copper; steel and iron pipe, fittings, etc.; vitrified sewer pipe; fire-brick; asbestos cement; turpentine; shellac; lumber; spud timbers, etc. Blanks and general information relating to circular No. 801 at this office or offices of assistant purchasing agents, 24 State St., New York; 614 Whitney-Central Bldg., New Orleans, and 1086 North Point St., San Francisco; also from U. S. Engr. offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash.

**Roofing.**—T. E. Hohmer, Leonard Hall, Leonardtown, Md.—Prices on roofing other than asbestos cement shingle.

**Sawmill.**—Jos. L. Pearson, Keysville, Va.—30 to 36-in. second-hand band saw, with tilting table and all attachments; good condition.

**Sawmill Machinery.**—J. D. Wylick, Box 907, Knoxville, Tenn.—Prices on new or second-hand steam nigger and steam feed machines for sawmill at Diboll, Tex.

**Sewers, etc.**—City, Chas. E. Bolling, City Engr., Richmond, Va.—Bids until Sept. 22 to construct sewers, granolithic curb and gutter; forms of proposals, etc., on application.

**Sewers.**—City of Henryetta, Okla.—Bids until Oct. 1 to construct 40 blocks sanitary lateral sewers and sewage-disposal plant; Benham Engineering Co., engr., 435 American National Bank Bldg., Oklahoma City; copies of plans and specifications obtainable on application to engineer on payment of \$15.

**Sewer Construction.**—Street Improvement Dist. No. 137, F. L. Holt, Secy., Little Rock, Ark.—Bids until Sept. 26 to excavate, lower sewers and install drainage on Rice St. from Markham to south line of Capitol View addition; plans and specifications on file at office Supt. of Public Works.

**Sewer Construction.**—Board of Awards, Baltimore, Md.—Bids at office City Register, City Hall, until Oct. 1 to construct storm water drains, Contract No. 31; specifications and plans obtainable from Sewerage Com., 904 American Bldg.; charge of \$5 for each specification and set of blueprints; require 1100 lin. ft. 30-in. and 33-in. masonry drain, 5350 lin. ft. 15-in. and 24-in. T. C. pipe drain, 900 lin. ft. 12-in. and 15-in. inlet connections, 32 manholes and 46 inlets; Chas. England, Chmn. Sewerage Com.

**Store Fronts.**—See Building Materials, etc.

**Structural Steel.**—Bureau of Yards and Docks, Navy Dept., Washington, D. C.—Bids until Oct. 18 for structural steel work for coaling plant, naval station, Pearl Harbor, Hawaii; estimated cost \$350,000; plans and specifications (Spec. No. 2020) on application to bureau, H. R. Stanford, Chief.

**Turpentine Plants.**—American Wood Waste Co., 32 N. Clark St., Chicago.—Prices on copper stills, general copper work, boilers, cars, retort doors and miscellaneous iron for turpentine plants.

**Water-works.**—Ashland Gas, Sewer & Water Co., D. B. Cox, Pres., Ashland, Va.—Bids until Sept. 25 for laying 4100 ft. 8-in. standard cast-iron water main; for information address E. M. Hastings, 1403 First National Bank Bldg., Richmond, Va., or E. W. Newman, Ashland.

**Well-drilling.**—Celestine Oil Co., Geo. W. Sterling, Engr., Muskogee, Okla.—Bids Oct. 1 for drilling.

## FINANCIAL NEWS

### Review of the Baltimore Market.

Office MANUFACTURERS RECORD,

Baltimore, Md., September 24.

The Baltimore stock market was generally quiet during the past week. In the trading United Railways common sold from 27 to 26 3/4; do. income bonds, 63 1/4 to 63 1/2; do. funding 5s, 87 to 88 1/4; do. notes, 107 1/4 to 107 1/2; do. 4s, 83 to 83 1/4; Consolidated Gas, Electric Light & Power common, 112 3/4 to 111; do. preferred, 114 1/4 to 111 1/2; do. 4 1/2s, 87 to 87 1/4; Consolidated Gas 4 1/2s, 93 1/4; Seaboard Air Line preferred, 47 3/4 to 49 1/2; do. 4s, stamped, 85 to 84 1/4; Mt. Vernon-Woodberry Cotton Duck 5s, 69.

Bank stocks sold thus: Bank of Commerce, 31 1/4; Merchants-Mechanics, 33 3/4; Western, 37 1/2; Exchange, 162; Bank of Baltimore, 180 1/2.

Mercantile Trust sold at 171; Baltimore Trust, 161; United States Fidelity, 190 to 185; Union Trust, 60 1/4; Munsey Trust, 90; Maryland Casualty, 94; Fidelity & Deposit, 155.

Other securities were traded in as follows: Baltimore City 4s, 1958, 93 1/2; do. do. 1951, 94; do. do. 1961, 93 3/4; do. do. 1962, 94; do. do. 1961, S. L., 90 1/4; Georgia, Carolina & Northern 5s, 102 1/4 to 102 1/2; Houston Oil common, trust certificates, 16 1/4 to 16 1/4; do. preferred, 57 to 57 1/2; Alabama Consolidated Coal & Iron 5s, 72 3/4 to 75; Baltimore Electric preferred, 43 1/2; do. 5s, stamped, 98 1/4; Consolidation Coal convertible 6s, 100; Pennsylvania Water & Power common, 70 to 67 1/2; do. 5s, 91; Chicago Railway 5s, 98 1/4 to 98 1/4; Fairmont & Clarksburg Traction 5s, 100 1/2; New Orleans, Mobile & Chicago 5s, 53; Canton Company (Baltimore), 165; Maryland Electric 5s, 98 1/4; Monongahela Valley Traction 5s, 92; Norfolk & Atlantic Terminal 5s, 92 3/4 to 92; Arundel Sand & Gravel 6s, 98; Nor-

folk Railway & Light 5s, 98; Raleigh & Augusta 6s, 100 1/2; Virginia Railway & Power 5s, 92 3/4; Maryland & Pennsylvania incomes, 58; Baltimore Traction 5s, 103 1/2; Northern Central Railway stock, 115; Baltimore & Ohio convertible 4 1/2s, 93; Atlantic Coast Line of Connecticut 5-20s, 92; Western North Carolina 6s, 100 1/4; Merchants & Miners' Transportation Co., 50; Memphis Street Railway 5s, 95; Atlantic Coast Line Convertible debenture 4s, 93 3/4; Consolidation Coal, 97 1/2; Atlantic Coast Line consolidated 4s, 91 5/8; Atlanta Consolidated Street Railway 5s, 103; Wilmington & Weldon 4s, 91 1/4; Savannah, Florida & Western 5s, 104 1/2.

### SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended September 24, 1913.

Railroad Stocks.	Par.	Bid.	Asked.
Atlantic Coast Line.....	100	122 1/2	123 1/2
At. Coast of Conn.....	100	212 1/2	220
Maryland & Pennsylvania.....	100	27	29
Seaboard Air Line Com.....	100	18	18
Seaboard Air Line Pfd.....	100	48	48
United Railways & Elec. Co.....	50	26 1/2	27
Virginia R. & P. Co.....	100	52 1/2	53 1/2

Bank Stocks.	Par.	Bid.	Asked.
Bank of Baltimore.....	100	180	182
Bank of Commerce.....	100	31 1/4	31 3/4
Lovers & Mechanics.....	100	222 1/2	240
Exchange.....	100	162	162
Farmers & Merchants.....	40	47	49
German.....	100	110	110
Merchants-Mechanics.....	100	10	24
National City.....	100	85	85
Western.....	20	37 1/2	37 1/2

Trust, Fidelity and Casualty Stocks.	Par.	Bid.	Asked.
Continental Trust.....	100	180	200
Fidelity & Deposit.....	50	157 1/2	158
Fidelity Trust.....	100	245	245
Maryland Trust Pfd.....	100	120	120
Merc. Trust & Dep.....	50	175	175
Munsey Trust.....	100	90 1/2	90 1/2
Union Trust.....	50	60 1/2	61
U. S. Fidelity & Guaranty.....	100	175	175

Miscellaneous Stocks.	Par.	Bid.	Asked.
Baltimore Electric Pfd.....	50	43 1/2	44
Canton Company.....	100	162	170
Con. Gas, Elec. Lt. & P. Com.....	100	110 1/2	112
Con. Gas, Elec. Lt. & P. Pfd.....	100	111	112
Consolidation Coal.....	100	97	98
G. B. S. Browning Co.....	100	2 1/2	3
Mor. & Min. Trans. Co.....	100	46	60

Railroad Bonds.	Par.	Bid.	Asked.
Alabama Midland 5s.....	100	104	104
Atlantic Coast 1st 4s.....	91	91 1/2	91 1/2
At. Coast Conv. Deben. 4s.....	93 1/2	94	94
At. Coast Conv. 4s, Cfs., 5-20s.....	89 1/2	92 1/2	92 1/2
At. Coast Comm. 5s.....	100 1/2	103 1/2	103 1/2
At. Coast S. C. 4s.....	89	92	92
Balto. & Annap. S. L. 5s.....	66 1/2	71	71
Balto. & Harris 5s.....	101	101	101
Carolina Central 4s.....	83 1/2	83 1/2	83 1/2
Coal & Coke Railway 5s.....	92 1/2	94	94
Coal & Iron Railway 5s.....	98 1/2	98 1/2	98 1/2
Georgia & Alabama 5s.....	103	104	104
Georgia & Florida 5s.....	50	50	50
Ga. Car. & North 1st 5s.....	102 1/2	102 1/2	102 1/2
Georgia Pacific 1st 6s.....	107 1/2	108 1/2	108 1/2
Ga. South. & Fla. 1st 5s.....	102	103 1/2	103 1/2
Maryland & Penna. Inc. 4s.....	58	60	60
New Orleans Gt. Nor. 5s.....	63 1/2	65 1/2	65 1/2
New Orleans, M. & C. 5s.....	51	53	53
Potomac Valley 1st 5s.....	100 1/2	100 1/2	100 1/2
Raleigh & Aug. 1st 5s.....	110	111	111
Sav. Fla. & West. 5s.....	104 1/2	106	106
Seaboard 4s, Stamped.....	85	85	85
Seaboard Adjustment 5s.....	75 1/4	75 1/4	75 1/4
Seaboard Refdg. 4s.....	75 1/4	75 1/4	75 1/4
Seaboard & Roanoke 5s.....	102 1/2	103 1/2	103 1/2
South Bound 5s.....	103 1/2	103 1/2	103 1/2
Suffolk & Carolina 5s.....	96	100	100
Western N. C. Con. 6s.....	100 1/2	100 1/2	100 1/2
Wilmington & Weldon 4s.....	95	95	95
Wash., Balto. & Annap. 5s.....	85	85	85

Street Railway Bonds.	Par.	Bid.	Asked.
Anacostia & Potomac 5s.....	97 1/2	98 1/2	98 1/2
Anacostia & Potomac 5s, Ctl.....	98	98	98
Atlanta Con. Street Railway 5s.....	92	92	92
Balto., Sp. Pt. & C. 4 1/2s.....	95	95	95
Baltimore Traction 1st 5s.....	102 1/2	103 1/2	103 1/2
Charleston City Railway 5s.....	101	103	103
Charleston Con. Electric 5s.....	92	92 1/2	92 1/2
City & Suburban 5s (Balto.).....	102	103	103
City & Suburban 5s (Wash.).....	100	101	101
Danville Traction 5s.....	93 1/2	94 1/2	94 1/2
Fairmont & Clarksburg Trac. 5s.....	101	102	102
Knoxville Traction 5s.....	97 1/2	98 1/2	98 1/2
Maryland Electric Railways 5s.....	95	95 1/2	95 1/2
Memphis Street Railway 5s.....	95	95 1/2	95 1/2
Monongahela Val. Traction 5s.....	90 1/2	91	91
Newport News & Old Point 5s.....	89	89	89
Newport News & Old Pt. G. M. 5s.....	70	80	80
Norfolk & Portsmouth Trac. 5s.....	88 1/4	88 1/4	88 1/4
Norfolk Railway & Light 5s.....	98 1/2	98 1/2	98 1/2
Norfolk & Atlantic Tr. 5s.....	91 1/4	91 1/4	91 1/4
United Railways 1st 4s.....	83	83 1/2	83 1/2
United Railways Income 4s.....	63 1/2	63 1/2	63 1/2
United Railways Funding 5s.....	63 1/2	63 1/2	63 1/2
United Railways 5s Notes.....	107 1/2	108	108
Virginia Ry. & P. 5s.....	92 1/2	93	93

Miscellaneous Bonds.	Par.	Bid.	Asked.
Ala. Con. Coal & Iron 5s.....	75 1/2	75 1/2	75 1/2
Baltimore Electric 5s, Stp.....	98	98 1/2	98 1/2
Consolidated Gas 5s.....	102	103	103
Consolidated Gas 4 1/2s.....	92 3/4	93 1/2	93 1/2
Consolidation Coal Com. 6s.....	100	100 1/2	100 1/2
Consolidation Coal Pfd. 5s.....	88	89	89
Con. Gas, Elec. Lt. & P. 4 1/2s.....	87	87 1/2	87 1/2
Fairmont Coal 1st 5s.....	93	95	95
G. B. S. Browning 1st 4s.....	41	43 1/2	43 1/2
G. B. S. Browning Inc. 5s.....	71 1/2	81 1/2	81 1/2
Jamison Coal & Coke 5s.....	90 1/2	92 1/4	92 1/4
Mt. Vernon-Woodbury Cot. Duck 5s.....	68 1/2	69	69
Pa. Water & Power 5s.....	90	90	90
St. Joz. R. L. H. & P. 5s.....	97 1/2	99 1/4	99 1/4
United Elec. Lt. & P. 4 1/2s.....	89	89	89

### Banks in Mississippi.



Raleigh &  
Railway &  
Pennsyl-  
nction 5a,  
way stock,  
tible 4 1/2a,  
connecticut  
rolina 6s,  
transporta-  
Railway  
convertible  
ion Coal,  
nsolidated  
ed Street  
& Weldon  
Western

MORE.

k Ended

ld. Asked.  
12 1/2  
2 1/2 250  
2 1/2 29  
18  
48  
24 1/2 27  
52 1/2 53 1/2

189 182  
31 1/2 31 1/2  
22 1/2 240  
162  
47 49  
110  
34  
95  
37 1/2

80 200  
57 1/2 158  
45  
120  
175  
99 1/2  
60 63  
70

43 1/2 44  
82 170  
109 112  
11 112  
97 98  
2 1/2 3  
16 63

33 104  
1 91 1/2  
33 94  
92 92 1/2  
10 103 1/2  
9 92  
45 71  
104

27 1/2 94  
87 1/2  
3 104  
50  
21 102 1/2  
7 108 1/2  
2 103 1/2  
60  
1 63 1/2  
53

111  
106  
85  
75 1/2  
104 1/2  
103 1/2  
100  
93  
85

98 1/2  
103  
92 1/2  
103  
101  
94 1/2  
100  
102  
98 1/2  
95 1/2  
93  
99  
80  
88 1/2  
98 1/2  
93  
83 1/2  
63 1/2  
87 1/2  
108  
93

75 1/2  
98 1/2  
103  
93 1/2  
100 1/2  
99  
87 1/2  
95  
43 1/2  
43 1/2  
92 1/2  
69

294  
...

...

...

...

...

**Merchants-Mechanics National Bank**  
South and Water Sts. BALTIMORE MD  
DOUGLAS H. THOMAS President  
JNO. B. RAMSAY V.-P and Chm Bd. of Dir.  
W.M. INGLE Vice-President.  
JOHN D. H. DUNN Cashier.  
Capital \$2,000,000 Deposits \$21,670,000  
Surplus and Profits \$2,175,000  
Accounts of Banks, Bankers, Corporations and Individuals solicited  
We invite correspondence.

**The First National Bank**  
OF KEY WEST, FLA.  
United States Depository and Disbursing Agent  
Capital - - - \$100,000  
Surplus and Undivided Profits - - - 40,000  
A general banking business transacted.  
Special attention given to collections.

**INVESTMENT SECURITIES**  
Southern Stocks and Bonds  
Municipal and Corporation  
Cotton Mill Stock a Specialty  
WM. S. GLENN, Broker, SPARTANBURG, S. C.

**JOHN NUVEEN & CO.**  
First National Bank Building  
CHICAGO  
We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.  
Write us if you have bonds for sale.

**Delaware Trust Company**  
Wilmington, Delaware  
INCORPORATING under broad, liberal, safe and stable Delaware laws. A fully equipped department for proper organization and registration of corporations.  
BANKING AND TRUST department gives special attention to out of town customers' accounts.  
TITLE DEPARTMENT examines and guarantees title to realty throughout Delaware.  
REALTY DEPARTMENT has sites for manufacturing industries. Modern Methods of management of property.  
J. ERNEST SMITH, President and Gen. Counsel.  
WM. G. TAYLOR, Vice-Pres. and Treasurer.  
HARRY W. DAVIS, Vice-Pres. and Secretary.  
W. W. PUSEY 2d, Title and Real Estate Officer.

**GO SOUTH!**  
**FOR SALE** Timber, Coal, Iron, Ranch and Other Properties  
Southern States, West Indies, Mexico  
SOUTHERN STATES DEVELOPMENT CO.  
(Brokers) Geo. B. Edwards, Pres.  
Tribune Building NEW YORK, N. Y.  
Confidential Negotiations, Investigations, Settlements, Purchases of Property

CHARLES L. HEHL, C. P. A., President  
JOHN KÜCHLER, C. P. A., Vice-President.  
**BALTIMORE AUDIT COMPANY**  
1027-1033 Calvert Building BALTIMORE, MD  
BRANCH-Monticello Arcade Building, Norfolk, Va.

**FREIGHT BROKERS FORWARDING AGENTS**  
Shipments of C. L. and L. C. L. Forwarded to Interior Points  
CONSIGNMENTS SOLICITED  
**HOWARD & COMPANY**  
PORT OF SAVANNAH

**We Buy** City, County School and Drainage **BONDS**  
FROM MUNICIPALITIES OR CONTRACTORS  
We are in position to pay HIGHEST PRICES. Write or wire us your offerings.  
**The New First National Bank, Assets, \$6,000,000 Columbus, Ohio**

**To Manufacturers and Capitalists**  
Contemplating the Establishment of Industrial Enterprises  
Attention is called to the exceptionally favorable location of  
**NEWPORT NEWS, VA.**  
on Hampton Roads, fifteen miles from the sea. Deep water, railway and sea transportation facilities unrivaled. Climate salubrious. Apply to  
**W. B. LIVEZEY, President** OLD DOMINION LAND COMPANY NEWPORT NEWS, VA.

H. B. Wilson, Pres. Blanchard Randall, V.-Pres.  
Wm. S. Hammond, Cashier  
Saml. W. Techudi, A. Cash. R. E. Bolling, A. Cash.  
**The First National Bank**  
17 South St., Baltimore, Md.  
Capital, - - - \$1,000,000  
Surplus and Net Profits, - - - 400,000  
Deposits, - - - 6,300,000  
Especially well equipped to handle the business of Southern Banks, Corporations, and Individuals and Manufacturers. We cordially invite correspondence and interviews.

**The National Exchange Bank**  
OF BALTIMORE, MD.  
Hopkins Place, German and Liberty Streets  
Capital, \$1,000,000  
July 15th, 1908, Surplus and Profits, \$671,631.60  
OFFICERS  
WALDO NEWCOMER, President.  
SUMMERFIELD PALDWIN, Vice-Pres.  
R. VINTON LANSDALE, Cashier.  
C. G. MORGAN, Asst. Cashier.  
Accounts of Mercantile Firms, Corporations, Banks, Bankers and Individuals invited

Edwin Warfield, President  
**Fidelity and Deposit Company of Maryland**  
Home Office: Baltimore  
Total Assets over \$11,000,000.00  
All Kinds and Classes of Surety Bonds and Casualty Insurance  
Largest and Strongest Surety and Casualty Company in the World

**Southern Steam Railroad Securities**  
DEALT IN  
**F. J. LISMAN & CO.**  
Specialists in Steam R. R. Securities  
Members New York Stock Exchange  
30 Broad Street NEW YORK  
33 Pearl Street, Hartford  
Land Title & Trust Bldg Philadelphia

**WE BUY MUNICIPAL BONDS**  
From Municipalities and Contractors. Write us if you have entire bond issues for sale.  
**SEASONGOOD & MAYER**  
CINCINNATI, OHIO

ELMER L. HATTER, C. P. A., Treasurer  
ERNEST E. WOODEN, C. P. A., Secretary

## Municipal Bonds Purchased

Correspondence invited from Investors wishing to sell their holdings of seasoned marketable Municipal Bonds, and from municipal officials and contractors in connection with entire new issues.

**N. W. HALSEY & CO.**

49 Wall Street, New York

PHILADELPHIA

CHICAGO

SAN FRANCISCO

## YOU NEED AN AUDITOR

Reports Prepared by Us,  
Certified Public Accountants,  
Have Weight in the Financial Centers.

**INTERSTATE AUDIT COMPANY**  
ACCOUNTANTS AND AUDITORS

P. W. ROBERTSON, Pres.  
Certified Public Accountant.

WASHINGTON, D. C.

## Securities Corporation General

1338 Chestnut Street, Philadelphia  
111 Broadway, New York

Authorized Capital  
**\$10,000,000**

Issued  
**\$4,853,125**

Deals and invests in public service securities.  
Participates in security underwritings.  
Finances public service enterprises.

P. M. CHANDLER, President  
W. H. SHARP, Vice-President  
G. W. ROBERTSON, Vice-President  
J. K. TRIMBLE, Sec'y & Treas.

### DIRECTORS:

CALDWELL HARDY, Norfolk, Va.  
ALEXANDER J. HEMPHILL, New York  
HOWARD A. LOEB, Philadelphia  
S. Z. MITCHELL, New York  
FERGUS REID, Norfolk, Va.  
GEO. W. ROBERTSON, Shamokin, Pa.

F. W. ROEBLING, Jr., Trenton, N. J.  
W. H. SHARP, Philadelphia  
EDW. D. TOLAND, Philadelphia  
J. G. WHITE, New York  
P. M. CHANDLER, Philadelphia  
F. T. CHANDLER, Philadelphia



## Palmetto National Bank

COLUMBIA, S. C.

Capital  
**\$250,000.00**

Deposits  
**\$2,700,000.00**

Surplus and Profits  
**\$150,000.00**

WILIE JONES, President  
JOHN JACOB SEIBELS,  
Vice-President  
THOMAS TAYLOR  
2nd Vice-President

J. P. MATTHEWS, Cashier  
WM. M. GIBBES, Jr.,  
Asst. Cashier  
WESTON & AYCOCK,  
Solicitors

Direct daily connection with every banking point in South Carolina.

28 YEARS' ACTIVE SERVICE  
STATE, CITY AND CORPORATION FINANCING  
Entire Issues Bought and Sold  
**Mercantile Trust & Deposit Company**  
OF BALTIMORE

Capital - - - \$1,500,000  
Surplus - - - \$3,000,000

Thoroughly organized to exercise all Banking and Trust Company functions.  
Correspondent for Banks and Trust Companies.  
A. H. S. POST - - President

Mississippi at the close of business June 18 have been published in pamphlet form by D. L. Thompson, State Auditor of Public Accounts. A summarized statement shows that the resources of the State banks were \$75,321,434.22, and of the National banks \$24,135,878.13; total, \$99,457,312.35. Total loans and discounts for all banks were \$65,869,884.66; individual deposits, \$53,683,388.40; time certificates of deposit, \$11,536,187.30. Capital paid in is \$15,966,926.55, surplus \$4,687,632.89, undivided profits \$2,870,252.88.

### FINANCIAL CORPORATIONS.

Ala., Birmingham.—Oscar Hundley, attorney at law, and others are reported organizing a life insurance company, which will have quarters in the Jefferson County Bank Bldg. and of which he will be president.

Ala., Girard.—The Citizens' Bank, capital \$25,000, says a report, will begin business by Oct. 1. C. L. Mullin is President; F. D. Kirven, V.-P.; W. J. Price, Cashr.

Ala., Eclectic.—The Citizens' Bank of Eclectic, capital \$25,000, will, it is reported, begin business by Oct. 1. B. L. Gaddis, Jr., is President, J. A. Howie and A. L. Hamilton, V.-Ps.; Lee Horsby, Cashr.

Ala., Marbury.—Farmers' Savings Bank of Marbury, capital \$10,000, will, according to a report, begin business by Oct. 1.

Ala., Montgomery.—Atlas Life Insurance Co., capital \$100,000, previously mentioned, has filed incorporation articles. B. P. Crum is President.

Ala., Union Springs.—A report says that W. L. Anderson and C. W. Stewart are organizing a bank in Union Springs.

Ark., Barren Fork.—Reported that the Bank of Barren Fork is being organized. The Mayor may be able to give information.

Ark., Horatio.—First National Bank of Horatio, capital \$25,000, is chartered. Joseph B. Millard is President, J. C. Henderson, Cashr. It succeeds the Horatio branch of the Farmers and Merchants' Bank & Trust Co. of De Queen, Ark.

Fla., Greensboro.—The Bank of Greensboro, a new concern, is inceptd. to begin business about Nov. 1; capital \$15,000. O. C. Spence of Whigham, Ga., is president, Dr. O. W. Gardner and J. T. Green, Vice-presidents, J. T. Spivey, Cashr.

Fla., Tampa.—A. C. Clewis, says a report, is preparing to establish the Savings & Trust Co. (a conversion of the Tampa Building & Loan Assn.) on January 1, and a site has been purchased for a building. The new concern will have \$500,000 capital. Mr. Clewis is President of the building association.

Ga., Atlanta.—Georgia Casualty Co. is proposed to be formed by amending charter of the Georgia Life Insurance Co., which has petitioned to do so. Capital stock is to be reduced from \$1,000,000 to \$300,540, the par being also reduced from \$100 to \$60 per share. W. E. Small is president.

Ga., Baconton.—The Pecan Bank of Baconton, capital \$15,000, a new concern, is chartered and will begin business in October. D. C. Stricklin is President; R. F. Cowan and J. B. Miller, V.-Ps.; O. J. Glauser, Cashr.

Ga., Cadwell.—Citizens' Bank of Cadwell, a new concern, began business Sept. 13; capital \$25,000. C. R. Williams is President, and A. McCook and L. W. Lavender, V.-Presidents, the other incorporators being D. A. Allgood, B. J. Beddingfield, C. C. Cadwell, J. A. Warren, C. J. Barrs, C. C. Huttoe, W. J. Mullis and B. K. Smith.

Ga., Cleveland.—Farmers and Merchants' Bank of Cleveland, capital \$25,000, has applied for charter; incorporators, J. M. Glover, H. A. Jarard, R. W. Allison, S. W. Ash, W. C. Logan, P. B. Smith, A. F. Johnson and others.

Ga., Fairmont.—Bank of Fairmont, Gordon county, capital \$25,000, has applied for charter; incorporators, J. C. McCrackin of Gordon county, W. B. Tate of Pickens county, J. F. Hurt, Mrs. Edna F. Tate and J. H. Disharoon, all of Gordon county.

Ga., Lafayette.—The Walker County Bank of Lafayette, capital \$25,000, has applied for charter. J. W. Cavender of Villanow, C. C.

Gilbert, J. D. Taylor, W. C. Martin, O. T. Simons, J. E. Rosser and J. W. Holland are incorporators.

Mo., Port Deposit.—The National Bank of Port Deposit and the Cecil National Bank will be liquidated and then reorganized under a new charter as the National Cecil Bank of Port Deposit; capital \$50,000; surplus \$50,000; Samuel C. Rowland, President; W. W. Hopkins, V.-P.; J. T. C. Hopkins, Cashr. The Board of Directors includes the first two officers and Edward V. Stockham, R. P. McClenahan, James Gardner, E. H. Rowland, W. H. Cole, Jr., J. H. Kimble, R. K. Rawlings, Morris Acker and J. T. C. Hopkins, Jr. Will begin business Oct. 20.

Miss., Charleston.—Tallahatchie Home Bank of Charleston, capital \$30,000, has applied for charter. Incorporators: Thomas G. James of Sharkey, B. F. Saunders of Swan Lake and others. (Previously mentioned.)

Miss., Indianola.—The Mississippi Abstract & Loan Co., a new concern, is chartered; capital \$10,000. Will begin business about Oct. 15. D. M. Quinn will be the principal stockholder. Others interested are W. M. Garrard, R. A. Jaudon and L. M. Watts.

Mo., Edina.—Farmers and Merchants' Bank is reported organized with W. E. Williams, President; J. F. Weaver, V.-P., and M. R. Tate, Cashr.

Mo., Owensville.—The Farmers & Merchants' Bank of Owensville, capital \$12,500, is chartered. Directors are Edward R. Aufderhelde, Louis Langenberg, F. E. Strehlmann, F. F. Ohmann, W. E. Heunemann, Peter Mayer and L. L. Courtney.

Mo., Simmons.—The Piney River State Bank of Simmons, capital \$10,000, is chartered. Incorporators are W. A. Caylor, Charles McCall, John Abels, Joel Caylor, L. S. White, A. R. Teater and J. E. Teater.

Okla., Purcell.—Application has been made to organize the State National Bank of Purcell, capital \$25,000, to succeed the Purcell Bank & Trust Co. Organizers: A. F. Tooley, Purcell, Okla.; T. S. Dines, C. V. B. Slade, S. L. Williams, G. W. Florence and others.

S. C., Clio.—Clio Bldg. and Loan Assn. is granted a commission; capital \$250,000. Incorporators: P. H. Lipscomb, T. G. Covington and W. H. Woodley.

S. C., Columbia.—The Columbia Guaranty Title & Trust Co., previously mentioned, will have \$25,000 capital. It is not at present going into banking business. Directors are: Wm. W. Arthur, President; B. F. Taylor, V.-P.; W. Anderson Clarkson, Secy. and Treas.; Morton Visanska and Francis H. Weston.

S. C., Florence.—A bank is reported organized at Pamplico, a new place on the South Carolina Western Railroad between Florence and Poston; capital \$25,000.

S. C., Georgetown.—Farmers and Merchants' Bank, previously mentioned, has organized. President, H. B. Springs; V.-P., Herman Schenk; Cashr., I. McG. Carraway; solicitor, C. G. Barr. Directors: Herman Schenk, H. B. Springs, J. A. Thrall, C. W. Rosa, A. S. Ehrlich, G. B. Sanders, G. T. Skinner, J. H. Fraser and W. H. Thomas. Business is to begin about Dec. 1. The capital of \$25,000 being oversubscribed, it was increased to \$30,000.

Tenn., Clinton.—First National Bank of Clinton has applied for permission to organize; capital \$25,000. Organizers: H. F. Miller of Clinton, L. B. Closs, S. B. Hall, S. M. Hendrickson and L. B. Harwell, Jr.

Tenn., Memphis.—The Title Guaranty Co. of Memphis, capital \$100,000, has obtained a charter in Delaware. Incorporators C. T.

**WE BUY**

CITY, COUNTY, SCHOOL  
AND DRAINAGE

**BONDS**

From Municipalities  
and Contractors

**The Tillotson & Wolcott Co.**  
CLEVELAND, OHIO

Denton, R. Church and I. E. Church of Memphis.

Tex., Ashland.—Guaranty State Bank of Ashland, capital \$10,000, has been authorized to begin business. Wm. D. Boyd is President, Harry J. Smith, Cashr.

Tex., Decatur.—The First State Bank of Decatur, a new concern, is chartered; capital \$50,000. Will begin business immediately. Guinn Williams is President, E. E. Boldridge and A. Y. Leslie, Vice-presidents, J. A. Simmons active V.-P., and E. P. Gibson Cashr.

Tex., Fleming.—The Farmers' Bank, says a report, has organized and begun business. Wm. Stanush is President, J. L. Harrison first V.-P., John McKenzie second V.-P., R. A. Lackland Cashr. Other directors being A. G. Brite, E. B. McAda, J. S. Neill, H. McKenzie and R. L. White.

Tex., Willsboro.—Stock subscriptions will be completed about Oct. 1 for a bank and trust company to be chartered with \$60,000 capital by R. E. Skeen, W. H. Holley and others.

W. Va., Oakvale.—J. R. Boyd is reported organizing the First Bank of Oakvale.

### NEW SECURITIES.

Ala., Alabama City.—\$26,500 of water-works bonds are reported voted, and it is also contemplated to sell bonds in the amount of \$18,500 for sewers and \$5000 for city hall. Address The Mayor.

Ala., Birmingham.—The city has voted favorably upon the proposition to call an election on \$200,000 of municipal auditorium bonds. The City Comms. will fix the date.

Ala., New Decatur.—\$150,000 of 6 per cent. 10-year paving bonds are reported purchased by Steiner Bros. of Birmingham.

Ala., Brundidge.—Bids will be received October 15 for \$10,000 of 5 per cent. 20-year town of Brundidge bonds. J. H. Lawson is Mayor.

Ala., Oneonta.—\$100,000 of 5 per cent. 30-year Blount county road bonds are reported sold to Steiner Bros. of Birmingham.

Ala., Tuscaloosa.—City bonds are reported voted thus: \$100,000 water-works extension and improvement; \$25,000 park; \$9000 fire apparatus; \$6000 garbage plant. J. V. Jones is City Clerk.

Ark., Fort Smith.—The city is expected to soon invite bids for refunding bonds to take up a paying loan. Address The Mayor.

Ark., Helena.—Bids will be received until

noon Oct. 1 for \$400,000 of Helena Improvement Dist. bonds. W. A. Coolidge is Secy. Further particulars will be found in the advertising columns.

Ark., Jonesboro.—Thomas Burnes, Mayor, says that 92½ was bid for the \$30,000 of 6 per cent. 10-year bonds of paving district No. 10, but the offer was rejected. Nothing will be done for a while.

Ark., Walnut Ridge.—\$35,000 of 6 per cent. 11-year average drainage district bonds are reported sold to the First National Bank of Walnut Ridge at par.

Fla., Arcadia.—\$75,000 of Arcadia school district bonds, De Soto county, have been voted. John L. Jones is Chrm, County Board of Education.

Fla., Auburndale.—Bids are being asked for \$15,000 of Auburndale special tax school district building bonds; denomination probably \$1000; 5 per cent. 20-year. Address County Board of Instruction, Bartow, Fla.

Fla., Bonifay.—\$40,000 of good roads bonds have been voted for Bonifay district of Holmes county. Address the County Comms.

Fla., Clearwater.—The \$35,000 of 6 per cent. 20-year serial Pinellas county school bonds, for which bids are invited, are in denominations of \$100, \$250, \$500 and \$1000. Bids will be opened Oct. 1 at 9 A. M. Dixie M. Hollins is Supt. of Public Instruction.

Fla., Clearwater.—An ordinance has passed its first reading in the City Council to call an election of \$50,000 of bonds thus: \$10,000 for pier, \$18,000 for street paving, \$5000 to extend water mains, \$10,000 for sewer system extension, \$3000 for parks and \$5000 for floating debt. Address The Mayor.

Fla., Dade City.—All bids are reported to have been rejected for \$150,000 of 5 per cent. 30-year district No. 1, Pasco county, road and bridge bonds. Bids for private sale will be received until Oct. 4. Arthur L. Anvil is Atty.

Fla., Fernandina.—Bids will be received until 10 A. M. Oct. 22 for \$50,000 of 5 per cent. 30-year municipal improvement bonds; denomination \$1000. G. L. Baltzell is City Clerk. Further particulars will be found in the advertising columns.

Fla., Fernandina.—As a result of the favorable election Aug. 19 there will be issued 5 per cent. 30-year municipal bonds thus: \$30,000 for ice plant and \$20,000 for docks; denomination \$1000; dated Oct. 15, 1913. Bids will be received for them until 10 A. M. Oct. 22. G. L. Baltzell is City Clerk.

## Capital for Southern Industries Peabody, Houghteling & Co.

(Established 1865)

10 So. La Salle Street

CHICAGO, ILLINOIS

### The Tome School

WITH its endowment of over two and a half million dollars, it can limit its enrollment to boys of high character. It has a faculty of unusual strength and size. It has created a unique type of school life. It can give much individual attention through its special tutors. Its graduates take high honors in the leading colleges and technical schools. Each boy has his own room.

It has the most beautiful school buildings and grounds in America.

It has one hundred and seventy-five acres, on which are a nine-hole golf course, five athletic fields, swimming pool, quarter-mile cinder track, tennis courts and batting cage.

Its tuition of \$700 would have to be fifty per cent. greater were it not for its endowment.

The LOWER SCHOOL FOR LITTLE BOYS offers all the advantages of the Upper Forms with the special benefit of a separate dormitory and a separate organization.

Illustrated Book on Request.

THOMAS STOCKHAM BAKER, Ph.D.,  
Director,  
Port Deposit, Maryland.

**SOUTHERN RAILWAY COMPANY,**  
30 Church Street, New York, September 19, 1913.  
A DIVIDEND OF TWO AND ONE-HALF PER CENT. (2½%) has been declared on the PREFERRED STOCK of this Company, payable on Thursday, October 30, 1913, to stockholders of record at the close of business Tuesday, October 7, 1913.  
R. D. LANKFORD, Secretary.

15 Broad Street, New York, Sept. 19, 1913.  
On October 30, 1913, the Voting Trustees for Preferred Stock Trust Certificates of the Southern Railway Company, WHICH HAVE ASSENTED TO THE EXTENSION AGREEMENT OF AUGUST 27, 1902, will be prepared to distribute the above dividend of two and one-half per cent. (2½%) when received by them, among the parties entitled thereto, as same appear of record on their books at the close of business October 7, 1913.  
J. P. MORGAN & CO.,  
Agents for Voting Trustees.

### Assets Realization Company

CAPITAL AND SURPLUS \$11,000,000

Loans on collateral not  
ordinarily acceptable  
to banking houses.

Correspondence Invited

NEW YORK  
25 Broad St.

PHILADELPHIA  
Lafayette Bldg.

CHICAGO  
First National Bank Bldg.

### RUBBER STAMPS, SEAL PRESSES, STOCK CERTIFICATES

Blank Books, All Kinds of Bank and Office Stationery and Office Supplies

PRINTERS  
LITHOGRAPHERS  
ENGRAVERS  
EMBOSSERS

Established 1872  
"THE BIG ALABAMA HOUSE"  
**ROBERTS & SON**  
ROBT. W. EWING, Pres.

Newly Equipped 1912  
1810-12 Third Ave.  
BIRMINGHAM  
ALABAMA



**Fla., Fort Myers.**—Special tax, School Dist. No. 1, has voted \$35,000, and special tax, School Dist. No. 5, \$10,000 of 5 per cent. 20-year school building bonds dated Nov. 1, 1913. Date for bids not yet determined. Jos. W. Sherrill, County Supt. of Public Instruction, 219 Garrett St., Fort Myers, Fla., may be addressed.

**Fla., Hastings.**—Bids will be received until 6 P. M. Tuesday, Oct. 14, for \$10,000 of 5 per cent. 20-year bonds, with accrued interest from Feb. 18, 1913; denomination \$500; for streets, sewers and fire protection. Address W. W. Waller, Prest. City Council. Further particulars will be found in the advertising columns.

**Fla., Jacksonville.**—The City Council is reported to have authorized an issue of \$40,000 of bonds dated Sept. 15 and to mature in 8 months, for the following purposes: General fund, \$23,000; repairs and internal improvements, \$13,000; hospital fund, \$3,400. Address The Mayor.

**Fla., Marianna.**—John Nuveen & Co. of Chicago were awarded at 95 and interest from Oct. 1, 1911, to Oct. 1, 1913, \$100,000 of Jackson county road and bridge bonds, 5 per cent., 4 year; denomination \$1,000. W. J. Singletary is Chmn. of the Board at Grand Ridge, Fla. Total issue authorized is \$300,000, of which \$100,000 were sold last year.

**Fla., Miami.**—\$40,000 of municipal revenue bonds are reported sold to the First National Bank, the Bay of Biscayne Bank, the Southern Bank and the Miami Bank & Trust Co.

**Fla., Newberry.**—Date for bids not yet fixed for the \$30,000 of 6 per cent. 10-30-year serial water and electric-light bonds voted Sept. 1; denomination \$1,000; W. H. Tucker, Chmn., is official in charge. W. R. Cheves is Mayor.

**Fla., Punta Gorda.**—An election is reported held on \$34,000 of sewer, \$40,000 of paving and \$22,000 of water-works bonds. Address The Mayor.

**Fla., Pensacola.**—Election proposed soon for \$1,500,000 of 4½ per cent. 50-year bonds of Escambia county, of which \$1,400,000 are for roads and \$100,000 for bridge. Thomas A. Johnson may be addressed.

**Fla., Sanford.**—The County Commrs. of Seminole County, says a report, have sold all bonds for Road Dist. No. 1.

**Fla., Tampa.**—The \$1,000,000 of Hillsboro county road bonds, recently voted, are reported validated in the Circuit Court by Judge F. M. Robles.

**Fla., Tampa.**—Mayor McKay is quoted as saying that the city's paving certificates and bonds will not be sold less than par. An offer for the former at 96 and one for the latter at 97½ being declined.

**Fla., Wauchula.**—\$50,000 of 6 per cent. 50-year water and sewer bonds are to be voted on Dec. 20. W. H. Dayton is Mayor.

**Fla., Wauchula.**—\$35,000 of school-building bonds have been voted. Address School Board.

**Fla., Winter Park.**—\$10,000 of 7 per cent. 15½-year average electric-light bonds are reported sold to the Bank of Winter Park at par and interest.

**Ga., Columbus.**—\$40,000 of 5 per cent. 10-year serial bonds have been sold by the city to the Robinson-Humphrey-Wardlaw Company of Atlanta at par, less \$170 for legal expenses. L. H. Chappell is Mayor.

**Ga., Cochran.**—Bids have been received, it is reported, for \$45,000 of courthouse, \$12,000 jail and \$8000 road machinery 5 per cent. 30-year bonds of Hecley county. Address County Commrs.

**Ga., La Grange.**—\$40,000 of 4½ per cent. gas bonds are reported sold to Eugene Fies of Birmingham, Ala.

**Ga., Lithonia.**—An election is reported for Sept. 20 on \$4000 of 6 per cent. town hall bonds. Address The Mayor.

**Ga., Rebecca.**—Election is called for Oct. 8, it is reported, to vote on \$8000 of 6 per cent. 30-year water-works bonds. Address The Mayor.

**Ga., Savannah.**—Voted: \$20,000 of 4½ per cent. 25-year auditorium bonds. Denominations \$500 and \$1,000. Date for bids not yet fixed. R. J. Davant is Mayor and Thos. Halligan clerk of Council.

**Ga., Valdosta.**—Voted: \$25,000 of paving bonds and \$15,000 of water-main extension bonds. Address The Mayor.

**Ky., Covington.**—Kenton county will, it is reported, vote at the Nov. election on \$100,000 of road-improvement bonds. Address County Commrs.

**Ky., Flemingsburg.**—The City Council is reported to have authorized an issue of \$25,000 of water bonds. Address The Mayor.

**Ky., Newport.**—\$1000 of 5 per cent. sewer

bonds, denomination \$100, are reported sold to the German National Bank of Newport at 101.5 and interest.

**La., Baton Rouge.**—East Baton Rouge Parish will issue \$15,000 of road bonds recently voted. F. A. Woods is Secy. of the Police Jury.

**La., DeQuincy.**—An election is called, it is reported, for \$16,000 of 20-year school-building bonds. Address the School Board.

**La., Hammond.**—A movement is reported under way to call an election for \$75,000 of road bonds for Hammond district. I. S. West, Prest. of the Hammond Progressive Union, may give information.

**La., Shreveport.**—\$193,000 of refunding bonds have been signed and issued by the city, retiring \$146,000 of the refund issue of 1910 and \$47,000 of park purchase bonds of the same year, and they will be delivered thus: \$72,000 to the Commercial National Bank of Shreveport; \$52,000 to the Louisiana State Life Ins. Co.; \$50,000 to the Caddo Levee Board of Shreveport; the balance, in small amounts, to the Firemen's Relief Assn. Fund, Continental Bank & Trust Co. and First National Bank, all of Shreveport, and L. M. Plummer of Pittsburgh, Pa. C. G. Rives is City Commr. of Accounts and Finance.

**La., Venice.**—\$30,000 of 5 per cent. 40-year bonds of Venice drainage district, out of a total issue of \$38,500, have been sold at par to local investors. A. A. Burns is Prest. of the Drainage Commrs.

**La., Welsh.**—\$15,000 of electric-light plant construction bonds recently voted are reported sold. A. E. Lemoine is Town Clerk.

**Miss., Meridian.**—The city has voted to limit its debt to 10 per cent. of the property assessment, and \$25,000 of bonds, it is stated, will now be sold. Address The Mayor.

**Miss., Scoola.**—\$10,000 of Kemper County Agricultural High School improvement bonds are reported voted by Scoola school district. Address the School Board.

**Miss., Yazoo City.**—Bids will be received until Wednesday, Oct. 1, for \$77,500 of 6 per cent. 25-year Yazoo county district road bonds; denomination \$500. Address S. S. Griffin, clerk of Chancery Court.

**Mo., Boonville.**—Lon V. Stephens of St. Louis was awarded \$25,000 of 5 per cent. 5-20-year optional street-improvement bonds at a premium of \$62.50. C. W. Whitlow is City Treas. and Charles G. Miller is City Clerk.

**Mo., Dexter.**—Bids will be received, it is reported, until 8 P. M. Oct. 6 for 5 per cent. 10-20-year optional bonds, \$28,000 for water and \$25,000 for sewer. John I. Moore is City Clerk.

**Mo., Hannibal.**—City bonds to the amount of \$300,000 are reported voted, of which \$60,000 are for water-works improvement. Address The Mayor.

**Mo., Holden.**—\$13,000 of 5 per cent. 5-20-year optional school improvement bonds are reported sold. Address School Board.

**Mo., Jefferson City.**—\$38,500 of bonds of the Valley Drainage District of Shelby county and \$350,000 of bonds of the Elsbey Drainage District of Lincoln county are reported registered and sold to the W. B. Compton Bond & Mortgage Co., St. Louis.

**Mo., Kansas City.**—Bids will be received by the Board of Park Commrs. until Sept. 22 for \$77,240.47 of 6 per cent. park fund certificates, which mature serially until June 30, 1922; denomination \$1,000. T. C. Harrington is Secy. of the Board.

**Mo., Kansas City.**—A report says that the City Council has bought for the sinking fund \$100,000 of flood protection bonds and \$100,000 of tuberculosis hospital bonds which the city offered but did not sell.

**Mo., Maryville.**—\$30,000 of Maryville Drainage Dist. bonds will be issued and offered for sale soon. They are 6 per cent. 5-10 year; denomination \$1,000. Address H. H. McClurg, Pickering, Mo.

**Mo., St. Louis.**—The Municipal Assembly in Oct. will, it is reported, consider a proposition to call an election on \$6,500,000 of city bonds for permanent public improvements, this being in addition to the \$3,500,000 of bonds for the municipal bridge. Councilman Arenades will introduce an ordinance on the subject providing for public markets, public swimming pools, parks, sewers and streets. Address The Mayor.

**N. C., Hamlet.**—M. W. Nash, City Atty., says a report, has delivered to the purchasers, the Tillotson & Wolcott Co., Cleveland, O., the \$30,000 of Hamlet town bonds for which they paid a premium of \$540.

**N. C., Marshall.**—C. W. McNear & Co. of Chicago are reported to have purchased the \$50,000 of 5 per cent. 30-year road improvement bonds of Madison county. W. C. Sprinkle is Chmn., County Commrs.

**N. C., Mooresville.**—\$20,000 of water system extension, \$30,000 of sewer and \$15,000 of street improvement 5 per cent. 30-year bonds are being offered for sale. Address The Mayor.

**N. C., Mt. Airy.**—\$80,000 of 5 per cent. road improvement bonds of Mt. Airy township, Surry county, denomination \$1,000, are reported sold to the Bank of Mt. Airy at par.

**N. C., Salisbury.**—An election will be held Oct. 1 in Scotch-Irish township of Rowan county on \$20,000 of road-building bonds. H. C. Trott is chairman of the Board of County Commrs.

**N. C., Wilmington.**—The Commrs. of New Hanover county, including Wilmington, have sold to local banks at par and interest \$175,000 of school and \$100,000 of road 4½ per cent. 25-year bonds voted on May 27. The purchasers are as follows: Wilmington Savings & Trust Co., \$35,000; Atlantic Trust & Banking Co., \$25,000; People's Savings Bank, \$25,000; Home Savings Bank, \$25,000; American National Bank, \$75,000, and the Murchison National Bank, \$100,000.

**N. C., Wilson.**—\$80,000 of 4 per cent. 30-year light and power plant rebuilding bonds are being offered for sale, and it is reported contemplated to make the issue serial. Address The Mayor.

**Okla., Medford.**—An election will be held soon, it is reported, on \$7000 of municipal bonds. Address The Mayor.

**Okla., Oklahoma City.**—Bids of par and interest have been rejected. It is stated, for approximately \$2,500,000 of 4½ per cent. State of Oklahoma funding bonds, and the holders of the 6 per cent. State warrants outstanding have been given the option of exchanging them for the bonds, interest on which is payable semi-annually. It is said that interest on the warrants has now been running for about 3 years; hence the proposition for exchange. B. F. Harrison is Secy. of State.

**Okla., Tulsa.**—The city, it is reported, will buy its own issue of \$25,000 of market-place bonds instead of offering them for sale. Mayor Frank Wooden and the City Commrs. now preparing a plan.

**S. C., Chesterfield.**—Alligator Township has voted to issue \$10,000 of road bonds. Address the County Commrs.

**S. C., Gray Court.**—\$5000 of school-building bonds have been voted. R. L. Gray may be addressed.

**S. C., Mullins.**—The Commrs. of Public Work for Mullins are offering for sale \$60,000 of 5 per cent. water and sewerage bonds dated August 1, 1913, interest semi-annually. Hoyt McMillan is Town Attorney. Further particulars will be found in the advertising columns.

**Tenn., Jonesboro.**—An enabling act has been passed authorizing an election before Jan. 1 for \$30,000 of street-improvement bonds. W. P. Shipley is Mayor.

**Tenn., Loudon.**—Loudon county, says a report, has sold \$150,000 of road bonds to C. W. McNear & Co. of Chicago at par.

**Tex., Abilene.**—According to a late report, the \$150,000 of 5 per cent. 5-40 optional court-house bonds of Taylor county, previously reported sold in Dallas, were sold to the Harris Trust & Savings Bank of Chicago at 97.50. E. M. Overshiner is County Judge.

**Tex., Austin.**—The Attorney-General has approved and the Comptroller registered bonds as follows: Trinity county road district No. 1, \$60,000, 20-10, 5 per cent.; Parker county common school district, \$5000, 20-10, 5 per cent.; City of Spur water-works, \$23,000, 40-10, 5 per cent.; Jim Wells common school district, \$6000, 40-10, 5 per cent.; City of Whitesboro electric light, \$5000, 30-10, 5 per cent.; Weatherford sewer, \$4000, 40-15, 5 per cent.; counties of Trinity and Houston common school district, \$4000, 20-10, 5 per cent.; Matagorda independent school district, \$8000, 40-20, 5 per cent.; Grand Prairie independent school district, \$30,000, 40-20, 5 per cent.; Waxahachie water-works improvement, \$22,500, 40-20, 5 per cent.; City of Commerce water-works extension, \$10,000, 40-20, 5 per cent.

**Tex., Bay City.**—The city is reported to have decided that the issue of \$125,000 of bonds by Peyton Creek Irrigation Dist. of Matagorda County is valid. Address County Commrs.

**Tex., Beeville.**—\$25,000 bonds of road district No. 1, Bee county, are reported voted. Address County Commrs.

**Tex., Bishop.**—\$23,000 of sewer purchase bonds are reported sold at par to F. Z. Bishop.

**Tex., Bryan.**—\$25,000 of street paving bonds and \$10,000 of water-works bonds, 5 per cent., 20-40-year, are reported sold to a Chicago firm at par. Address The Mayor.

**Tex., Carrizo Springs.**—\$6000 of 5 per cent. 20-40-year street improvement bonds are reported purchased at par by the Dimmitt County Sinking Fund.

**Tex., Corpus Christi.**—\$100,000 of 5 per cent. 20-40-year optional bonds of road district No. 1, Nueces county, are reported not sold on Sept. 10. Address County Commrs.

**Tex., El Paso.**—\$350,000 of 5 per cent. 20-40-year optional road bonds of El Paso county are reported sold to C. W. McNear & Co. of Chicago. Bonds mature Apr. 10, 1953.

**Tex., Hempstead.**—A vote will be taken Sept. 25, it is reported, on \$15,000 of bonds for road district No. 5 of Waller county. Address County Commrs.

**Tex., Henderson.**—Bids will be received until 2 P. M. Oct. 20 for \$32,000 of 5 per cent. 40-year water-works bonds. C. L. Lacey is City Secy.

**Tex., Huntsville.**—\$8000 of city bonds are to be issued for refunding. T. C. Gibbs is Mayor.

**Tex., Jayton.**—Bids will be received until Oct. 2 for \$12,000 of 5 per cent. 40-year school-building bonds. W. M. Morrow is Secy. Bd. of Education.

**Tex., Mexia.**—\$20,000 of sidewalk and street paving bonds are reported voted. Address The Mayor.

**Tex., Somerville.**—\$20,000 of 5 per cent. 40-year water-works construction bonds will be voted on at election Oct. 14. Casper Landolt is Mayor.

**Tex., Teague.**—\$15,000 of water-works bonds are reported voted. Address The Mayor.

**Tex., Tioga.**—City Council has called an election Oct. 4 on \$12,500 of water-works bonds. Address The Mayor.

**Tex., New Braunfels.**—\$14,000 of school-building bonds are reported authorized at a recent election. Address the School Board.

**Tex., Rosenberg.**—The election Oct. 15 on \$31,000 of city bonds will include \$18,500 for water-works and \$12,500 for streets. A. W. Meyer is Mayor.

**Tex., Van Horn.**—\$50,000 of 20-40 optional road and bridge bonds and \$20,000 of 20-year funding warrants of Culberson county are reported sold to the Commonwealth Trust Co. of Houston, Tex.

**Tex., Wilks.**—\$7000 of 5½ per cent. water-works bonds have been voted. Address J. E. Palo, Town Clerk.

**Tex., Waco.**—George N. Denton, County Judge, says that there is no bond issue in immediate contemplation by McLennan county. This refers to a late report that road bonds would be issued.

**Tex., Wharton.**—\$300,000 of 5 per cent. bonds of road district No. 1, Wharton county, which have been approved and registered by the State authorities, are being offered for sale. J. R. Bowen is County Judge.

**Va., Blacksburg.**—The Blacksburg Board of Trade, S. W. Fletcher, Prest., and others, will, as the result of a mass-meeting, ask the Board of Supervisors and the Circuit Judge of Montgomery county to call an election for \$100,000 of road bonds in Blacksburg District.

**Va., Tazewell.**—\$60,000 of Tazewell county road bonds are reported sold to the Tazewell National Bank and the Bank of Clinch Valley, both in Tazewell. Clearfork Dist. will receive \$25,000, Jeffersonville Dist. \$22,000 and Maiden Spring Dist. \$13,000.

**W. Va., Ceredo.**—Date not yet set for bids on \$4500 of 6 per cent. 10-year bridge bonds recently voted; denomination \$500. J. O. Marcum is Mayor.

**W. Va., Fairmont.**—\$400,000 of 5 per cent. Marion county road bonds are reported sold to a firm in Cleveland, O. Address County Commrs.

**W. Va., Follansbee.**—Bids will be received, it is reported, until 4 P. M. Oct. 4 for \$18,000 of 5 per cent. 10-34-year optional sewer bonds. Frank Bowen is Town Clerk.

## FINANCIAL NOTES.

The Southern Railway Co. has declared a dividend of 2½ per cent. on its preferred stock, payable Oct. 30.

The National Bank of Baltimore has completed the remodeling and enlargement of its bank building and has again occupied it after conducting business in temporary quarters for several months.

At the eleventh annual convention of the American Institute of Banking, held at Richmond, Va., Dallas, Tex., was chosen for its meeting place next year. Officers were elected thus: H. J. Dreher, Milwaukee, Prest.; James D. Garrett, Baltimore, V. P.; W. B. Kramer, Scranton, Pa., Secy., and M. J. Mulcahey, Minneapolis, Treas.

# Classified Opportunities

## MEN WANTED

**SALES MANAGER.**—District Sales Manager wanted by an established consulting engineering and construction corporation, based on co-operative plan, offices in Cleveland, Detroit, Buffalo and New York City. The position requires a man with engineering knowledge, one who can take full charge of the sales department. Highest references and \$1000 stock investment required. Contract with salary, commission and interest in business guaranteed. Address No. 1368, care Manufacturers Record.

**WANTED.**—A Commercial secretary with experience; must furnish best references. Address Board of Trade, Apalachicola, Fla.

**AGENTS** to sell the newest electric appliance on the market; sold everywhere there is electricity, in the home and office; liberal profits; sales-driving sample, weighs a pound; no experience or knowledge of electricity required; it shows how to use one light instead of two and get the same results; sells for \$3.50 and saves the purchaser an investment of \$25. Write for particulars. The Handy Light Co., 939 Handy Light Block, Cincinnati, Ohio.

**WANTED.**—As manager for well-paying wholesale hardware business, an experienced hardware man who can purchase from \$5000 to \$2000 stock in company. Address "D. R.," P. O. Box 844, Charleston, S. C.

**WANTED.**—Man of experience and ability in building construction and engineering; must purchase not less than \$2500 of the stock of this company, which is now in successful operation. He will be made secretary and superintendent. Address Drawer 729, Hattiesburg, Mississippi.

**WANTED.**—First-class real estate salesman. All proposition to right man. Conditions right for large business. A future to the man who proves his ability. Give full information with first inquiry. Address Box 595, Wilmington, N. C.

**WANTED.**—To correspond with real estate firm of high standing who are familiar with handling colonization proposition of high class; no cheap land; easy-payment proposition, but a highly developed, legitimate, value-received proposition. To the right parties will give the exclusive sales contract, but they will be required to make proper showing as to their ability to finance themselves and show by "past performances" their ability as "result getters." T. J. A., Box 14, Rural Route 3, Richmond, Ky.

## AGENCIES WANTED

**WE ARE PREPARED** to sell your products and care for Kansas City stocks. Manufacturers are finding it necessary and very profitable to place stocks here, this being one of the best distributing points in this country. We have 14,000 square feet of fire-proof warehouse. If you are interested, let us hear from you. The Ostertag-Anderson Supply Co., 212 Central St., Kansas City, Mo.

**WANTED.**—Sales agency for all lines pertaining to builders' specialties; East Tennessee as territory; can furnish satisfactory references to interested concerns; modern warehouse facilities. Address Daniel Briscoe, Jr., 325-327 State St., Knoxville, Tenn.

**MANUFACTURERS' AGENTS.**—Capable, experienced business men with banking references, opening offices in best location in San Diego, the distributing point for lower California and the Great Imperial Valley, solicit good lines. Write us. Grant Nul & Perrenot, Suite 506-7-8 U. S. Grant Bldg., San Diego, California.

**ARE YOUR PRODUCTS SOLD IN AUGUSTA, GA.?**—We handle only the best lines of builders' supplies, and will push your goods vigorously. We can sell them. If interested, address P. O. Box 511, Augusta, Ga.

**WANTED.**—To represent a large reliable concern who manufactures cloth such as is used by the cloak, suit, dress and skirt trade; have thorough acquaintance and wide experience with that trade, both jobbers and manufacturers; commission basis only; have excellent selling force and can handle large business with proper line. Write to Harry Aldman, 149 West 24th St., N. Y. City.

**WANTED.**—An old-established firm, whose business permits of taking on side lines, desires to represent manufacturers in Baltimore and vicinity; first-class references. Address No. 1355, care Manufacturers Record.

**SALESMAN** with splendid trade wants medium-priced line of supplies for railroads, foundries and hardware trade for Southern territory on commission basis. Highest references. Address No. 1358, care Manufacturers Record.

**WANTED.**—High class, wide-awake young business man would like to represent manufacturer in State of Texas as State agent; commission basis; capable of handling men; highest references in the South. Address No. 1320, care Manufacturers Record.

## SITUATIONS WANTED

**COAL TAR PRODUCTS PLANT.**—Mechanical engineer and superintendent wishes to obtain a position in this line; thoroughly familiar with the business. Address No. 1375, care Manufacturers Record.

## RATES AND CONDITIONS

Rate 20 cents per line per insertion. Minimum space accepted, four lines. Maximum space accepted, 25 lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 15c per line, 300 lines 16c. per line; 500 lines or more 15c per line

**EXPERIENCED TRAVELING SALESMAN.** with very large acquaintance in the Southern mill-supply trade, desires position with responsible manufacturer. Address E. C. Brooke, Box 71, Richmond, Va.

**CLASS "A" general contract estimator.** experience heavy construction only, reinforced concrete, steel, mill, good draftsman, office man, stenographer, open for engagement Oct. 1; anywhere in the Southwest; high-class reference. Address No. 1373, care Manufacturers Record.

**MECHANICAL ENGINEER** of exceptional ability is open for position as superintendent, mechanical engineer or manager at reasonable salary; no objection to a small but progressive concern, and can furnish new specialties of merit. Address No. 1360, care Manufacturers Record.

**WANTED.**—Position as superintendent or manager by graduate C. E. 1905; experienced in railroad location and construction, coal, underground limestone and open pit steam shovel and washer ore mining; references from all employers as to ability for work and economical management, also bank reference. Salary now \$175 per month, but want change for promotion, depending on my ability. Address No. 1374, care Manufacturers Record.

**YOUNG married man** of good habits desires position with contractor, planning mill or building-supply house; thorough knowledge of plans and specifications, estimating and building construction; best reference. Address No. 1378, care Manufacturers Record.

**A GENTLEMAN** of education, of wide experience, broad knowledge of the South, an unusual acquaintance with men of affairs in all sections, with the highest references as to character and ability, desires a position of responsibility as secretary of a strong commercial organization or similar work where constant travel will not be necessary. His present employment keeps him away from home more than three-fourths of the time. Letters addressed to No. 1377, care Manufacturers Record, will be forwarded.

**POSITION WANTED** as superintendent; have had 10 years' experience superintending and developing surface mining of coal and phosphate rock; had charge of one of the largest plants in Tenn.; am an expert on equipment to handle the above work. Address No. 1369, care Manufacturers Record.

**WANTED.**—Position by man of about 15 years' experience in manufacturing show-cases and store fixtures; competent to design and construct woodworking machinery; equal experience as sales manager; will take some stock in safe investment; small family; good references as to ability, habits and character. Address No. 1372, care Manufacturers Record.

**MECHANICAL ENGINEER,** familiar with distillation of coal tar and pitch, creosote oil, etc., and the refining of all coal tar products, wishes to secure work in this line. Any large producer of tar or creosoting company with tar supplies available, take notice. Address No. 1361, care Manufacturers Record.

**WANTED.**—Position as assistant secretary of Chamber of Commerce or something leading up to it. Am a professional young man. Baxter Genoble, Picolet, S. C.

## TYPEWRITER SUPPLIES

**HIGHEST QUALITY TYPEWRITER SUPPLIES.**—Exclusively oil carbon and mineral coloring matter used in manufacture of carbon paper, which enables us to guarantee absolutely clean work and permanent copies. Our ribbons are made of imported silk, giving much additional strength. They are guaranteed non-fading and long wearing. Address A. Sylvester Edmonds, care of American Ribbon & Carbon Co., 209 Shackelford Building, Athens, Ga. Please mention Manufacturers Record in writing.

## EDUCATIONAL

**RENSSELAER POLYTECHNIC INSTITUTE, TROY, N. Y.**—Courses in Civil, Mechanical, Electrical and Chemical Engineering and General Science, leading to the degrees of Civil Engineer (C.E.), Mechanical Engineer (M.E.), Electrical Engineer (E.E.), Chemical Engineer (Ch.E.), and Bachelor of Science (B.S.). Also special courses. Splendidly equipped new engineering laboratories. Send for catalogue to Registrar.

## CAPITAL WANTED

**WANTED.**—Capital to manufacture reciprocating double-piston non-vibrating extra exhaust (una-flow) engine. One built develops 25% greater power with extra exhaust open than closed and exhausting in usual way. Address No. 1370, care Manufacturers Record.

**CAPITAL WANTED** in order to promote the three best and most profitable disposal systems (garbage, sewage and grease arrestation). Principal products, fertilizer, ammonia and grease. Civic economies; sanitary collection and disposal of garbage; absolute purification of sewage waters. These systems are infinitely superior to any other. Sewage system obviates expensive works. Address No. 1364, care Manufacturers Record.

**A GOING CONCERN,** owning its plant and doing a manufacturing, general machine shop, foundry and contract business, best location in South Atlantic States, fine prospects, plenty of work not easily affected by outside conditions, wants \$20,000 active working capital; terms to be arranged. Don't write unless genuinely interested and have the money. Address No. 1289, care Manufacturers Record.

## HOTEL WANTED

**AN OPPORTUNITY.**—We have one of the best openings in the Southwest for a good up-to-date hotel; have no hotel at this time; population 5000; two railroads; town will take \$5000 in stock; will guarantee 10 per cent. investment. Address Byron B. Bronson, Wilburton, Okla.

## BUSINESS OPPORTUNITIES

**"SAFETY FIRST."**—The fuse problems are solved; no more overfused, overheated wires; the fire hazard is reduced to a minimum; a cartridge or plug type fuse, designed for a given amperage, cannot be connected with a base designed for a lower amperage, the same class. The devices are patented in U. S., Canada, Great Britain and France. The patent rights are for sale, or may be manufactured on royalty basis. Address Louis Kovacs, 317 S. Peoria St., Chicago, Ill.

**CONTRACTOR WANTED.**—Experienced man to contract the clearing of 200 acres a month of cut-over hardwood land, gradually increasing to 400 acres per month; must be cleared ready for the plow; stumps up to 10 inches must be pulled; man must be able to give bond. The Gerard B. Lambert Co., Elaine, Ark.

**FOR EXCHANGE.**—Forty acres of suburban land suitable for subdivision, 20 minutes' run from Philadelphia, for a large tract of mountain land suitable for sheep or cattle ranching. For full information address The Central Realty Co., Inc., 1006 Hull St., Richmond, Va.

**A WOOD-PULLEY MANUFACTURER** wishes to communicate with parties who have a plant and drykiln suitable for the manufacture of wood pulleys, with a view to locating in the South. Address No. 1371, care Manufacturers Record.

**TIMBER FOR SALE AND FARM FOR RENT.**—About 5,000,000 feet standing timber, of which about 3,000,000 feet is pine and 2,000,000 hardwood. Good farm for rent with factory suitable for staves, excelsior or cannery. On the Mattaponi River and the proposed line of the Richmond & Urbanna R. R. J. W. Fleet, Biscoe, Va.

**A SPLENDID OPPORTUNITY.**—A builders' supply business for sale in one of the fastest growing small cities of the South; have done yearly business of \$75,000 to \$100,000 and cleared handsome dividend on investment; well established and advertised, and for sale at inventory prices, with or without accounts. Address No. 1376, care Manufacturers Record.

**WOULD like to hear from manufacturers' agents** who are interested to take on a specialty that meets with a ready and permanent sale among mills, factories, machine shops and power plants generally. Address Sales Manager, Suite No. 2710, 165 Broadway, New York.

**I AM LOOKING** for a partner to go in the field of concrete business; a young, energetic engineer, absolutely familiar in reinforced concrete and willing to work; must have \$2000 capital. Address A. De Franceschi, 751 Monroe Ave., Memphis, Tenn.

**KAOLIN and china clay expert** will develop properties, test material or manage plant; 20 years' experience with one firm. Address No. 1299, care Manufacturers Record.

**PANAMA PROSPECTS.**—Write us if interested and need accurate information on business openings. We cover the whole field of isthmian activity. Commissions accepted. Panama Information Agency, Apartado 166, Panama City, Panama.

**FOR SALE.**—Patterns, tools, jigs, drawings and patent rights of high-class heavy machine tool specialty; adopted and endorsed by many of the largest concerns in New England as the best tool in its line on market today; big proposition and exceptionally attractive one for large machinery manufacturer in Middle West or South; open to rigid investigation to reliable parties meaning business. Edward Wilbur, 125 Summer St., Boston, Mass.

## OFFICE BUILDING FOR SALE

**FOR SALE.**—Twelve-story modern office building, steel and concrete construction, located on a prominent corner in a growing Southern city of 150,000 population; yields an annual rental of \$54,000; will net 8% on the price asked. For further particulars address W. E. Hale, 412-413 First National Bank Bldg., Nashville, Tenn.

## WAREHOUSE FOR RENT

**5-STORY warehouse,** 337-39 North St., 30x80; 4-story warehouse, 332-34 North St., 40x50; 5-story warehouse, 226-28 Pleasant St., 27-50. All in excellent repair; equipped with electric elevators, fire shutters and offices; located in center of manufacturing district, on N. C. Ry. tracks. Apply Walter M. Farber or J. Leroy Hopkins, 1231 Calvert Building, Baltimore, Md.

## R. R. TERMINAL AND FACTORY SITES

**DESIRABLE MANUFACTURING SITE NEAR ATLANTA FOR SALE.**—Large acreage, on Southern Ry. Also large tract in Birmingham suitable for railroad terminal or manufacturing. Coffield Investment Co., Atlanta, Ga.

## INDUSTRIES WANTED

**BLUEFIELD, W. VA.,** located on the main line of the Norfolk & Western Railway midway between Columbus, Ohio, and Norfolk, Virginia, the gateway to the vast Pocahontas coal fields, and the distributing point for a half million people within a fifty-mile radius, wants new industries and offers inducements to legitimate manufacturers. Large silica limestone and brick-clay deposits within corporate limits. For illustrated booklet and specific information address C. T. Boykin, Secretary, Bluefield Chamber of Commerce.

## MISCELLANEOUS

**ARE you seeking a factory site or a location** for a wholesale or distributing house of any kind to reach the Southern and Southwestern markets? If so, Memphis is the place for you, because it is the geographical center and the gateway of the sections you wish to cover; because "Memphis makes the rates," having 17 railroads and the Mississippi River, and because she has cheap and abundant raw materials, excellent labor conditions, and is unsurpassed as a residence city. Above all, she has 200,000 wide-awake citizens ready to welcome you and cooperate with you. Address John M. Tuther, Sec'y Business Men's Club, Memphis, Tenn.

**BEFORE YOU DECIDE** on the location for an industry, write to J. R. McConnell, Industrial Agent, Randolph & Cumberland Railroad, Carthage, N. C.

**KENOVA, W. VA.,** offers unsurpassed advantages for manufacturing enterprises: free sites, cheap gas, cheap coal, three trunk-line railroads with belt line and switches, interurban electric line to cities in West Virginia, Kentucky and Ohio; two navigable rivers; various kinds of raw materials easily available; best markets economically reached. Kenova-Huntington Land Co., Huntington, W. Va.

## INDUSTRIAL PLANTS FOR SALE

### SAW MILL OUTFIT

**FOR SALE.**—Complete saw and planing mill outfit; have cut out timber holdings and will sell machinery at a bargain; list of machines, etc., furnished upon request. Address P. O. Box 792, New Bern, N. C.



turers'  
a spe-  
perma-  
achine  
ddress  
adway,

in the  
ergetic  
forced  
have  
ht, 751

ill de-  
manage  
firm.  
ecord.

Inter-  
a busi-  
eld of  
epted.  
to 106,

draw-  
heavy  
d en-  
New  
mar-  
onally  
ufac-  
rigid  
auing  
r St.,

office  
ction,  
wing  
fields  
% on  
s ad-  
Bank

0x80;  
0x50;  
27-50.  
elec-  
; lo-  
Fret.  
uld-

TES

HITE  
acre-  
t in  
dual  
Co.,

main  
mid-  
folk,  
non-  
for  
mmic  
in-  
ries.  
pos-  
ted  
ress  
ber

oca-  
use  
and  
is  
ph-  
ons  
kes  
the  
cap  
bor  
esi-  
de-  
co-  
ner,  
n.

ion  
ell,  
nd

ad-  
-  
nk-  
es,  
est  
vi-  
als  
lly  
o.,

s-  
ga  
of  
d-